BCA COMPLIANCE ASSESSMENT REPORT

Building Code of Australia 2022 Amendment 2

PROJECT:	461 Chapel Road, Bankstown
REF. No.:	NEW241003 (Rev 4)
DATE:	27/02/2026
CLIENT:	Sustainable Development Group
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new crown consulting

COMPLIANCE RIGHT FROM THE START

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REPORT REGISTER

Issue	Date	Description	Consultant	Signature
1.	30/09/2025	Draft Preliminary BCA Report (for SSDA)	**Prepared by:** Debashis Chowdhury.	--
			Reviewed by: Mauricio Vera	--
2.	07/10/2025	Final BCA Report (for SSDA)	**Prepared by:** Debashis Chowdhury.	--
			Reviewed by: Mauricio Vera	--
3.	12/02/2026	Final BCA Report (for SSDA) - Layout changes	**Prepared by:** Mohamed Hammoud	--
			Reviewed by: Mauricio Vera	--
4.	27/02/2026	Final BCA Report (for SSDA) - Layout changes	**Prepared by:** Mohamed Hammoud Building Surveyor	
			Reviewed by: Mauricio Vera Director, Building Surveyor – unrestricted (BDC2854)	

1.0 Executive Summary

This National Construction Code assessment report, in specific of the Building Code of Australia 2022 Amendment 2 (BCA), has been prepared by New Crown Consulting for Sustainable Development Group, and it relates to the proposed works associated to the subject development known as 461 Chapel Road, Bankstown.

The evolving design documentation submitted at this stage of the design is detailed to the extent where the preparation of a comprehensive assessment report is achievable. This report is a final version for SSDA Stage.

Table 1 (below) summarises the items of interest at this stage of the review, including variations to the DTS Provisions of the BCA, and aspects that require further information. The summary below is not an exhaustive list of all non-compliances for the development. The report in its entirety needs to be reviewed by the design team to obtain an understanding of all BCA related matters.

The following items listed in the table below are required to be clarified to confirm the design complies with the BCA:

Item	Non-Compliance	Resolution	Performance Requirement	Clause	Assessment Method
Identified Performance-Based Solutions					
1.	Absence of two (2) fire compartments per storey in childcare	Performance Solution	C1P1, C1P2, C1P4, D1P2, D1P4	NSW C3D6 (2)	TBC
2.	Absence of at least two (2) horizontal exits per fire compartment and 9m apart maximum in childcare	Performance Solution	C1P1, C1P2, C1P4, D1P2, D1P4	D2D16 (8)	TBC
3.	Absence of FRL at base of a fire rated shaft (garbage chute).	Performance Solution	C1P1, C1P2	C2D2, S5C8	TBC
4.	Insufficient exits of one (1) in lieu of two (2) in level 1 childcare part	Performance Solution	D1P4, E2P2	NSW D2D3 (4) (iv)	TBC
5.	Excessive travel distances to an exit: - Ground floor: 30m in lieu of 20m - Mezzanine: 28m in lieu of 20m - Levels 03-17: 9m in lieu of 06m - Level 17: 21m in lieu of 20m	Performance Solution	D1P4, E2P2	D2D5	TBC
6.	Excessive travel distances of 80m in lieu of 60m between exits (ground floor)	Performance Solution	D1P4, E2P2	D2D6	TBC
7.	Insufficient egress width of less than 1m identified in various locations (Level 1)	Design rectification	D1P4, E2P2	D2D8	TBC

Table 1.0 – Executive Summary

2.0 Introduction

The present BCA assessment review has been limited to the evolving Architectural drawings (For SSDA Submission), listed in Addendum B of this report, which detail sufficient information to allow the identification of the matters included in the Executive Summary and examined for further consideration.

2.1 Purpose

The purpose of this report is to assess the proposed design against the Deemed-to-Satisfy (DTS) Provisions of National Construction Code, in specific to the Building Code of Australia 2022 Amendment 2 (BCA), and to stablish any aspects where compliance may not be achieved, where compliance is capable to be achieved, or where compliance is readily achievable.

Any aspects where DTS compliance is not achieved, assessment against relevant performance criteria will need to be addressed by means of a separate Performance Based Solution (PBS) report and the associated Performance Based Design Brief (PBDB) report.

2.2 Applicable BCA/NCC

The design of buildings is bounded by the Environmental Planning and Assessment Act 1979. Compliance with the National Construction Code (BCA/NCC) is compulsory to all proposed “new works” regardless of the adopted certification pathway.

For Crown Land developments, the BCA edition is based on when tenders for main works are issued. For non-Crown developments, the BCA edition effective at the time of the construction certificate (CC) application, including the "entrance floor," applies to all subsequent CC applications under the same consent, per the Environmental Planning and Assessment (Development Certification and Fire Safety) Amendment (Construction Certificates) Regulation 2023.

The BCA is now updated every three (3) years, the last update occurred on the 29th July 2025, thus applicable version is BCA 2022 Amendment 2.

2.3 Fire & Rescue (FRNSW)

Fire & Rescue NSW (FRNSW) is a regulatory authority in NSW. In accordance with Division 3 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021., initial referral process to FRNSW, also known as Fire Engineering Brief Questionnaire (FEBQ), is adopted if fire safety compliance issues are raised in the Performance Based Design Brief (PBDB) required by the BCA.

2.4 Certifying Authority

A Principal Building Surveyor (also known as Accredited Certifier), whether in private practice or working for a council, is a public official whose role it is to issue certificates that authorise construction and building occupation in accordance with relevant planning and building legislation. They also inspect buildings to issue certificates.

In accordance with Section 24 Prescribed Conflicts (Part 4 – Conflicts of Interest) of the Building and Development Certifiers Regulations 2020, when a certifier is elected to act as the certifier for a project, the certifier cannot act as a consultant for that project, in any form, as it could give rise to conflicts of interest. Similarly, if a certifier acts as a consultant for a project, that certifier cannot subsequently act as the certifier for the same project.

Part 4 Conflicts of Interest.
24 Prescribed conflicts:
For the purposes of section 29(1)(b) of the Act, the following are circumstances in which a registered certifier has a conflict of interest in certification work—
(a) the registered certifier issuing a strata certificate for a strata plan, strata plan of subdivision or a notice of conversion if the plan or notice has been prepared by the registered certifier or a person who has a relationship (whether family, personal, employment or business) with the registered certifier,
(b) the registered certifier carrying out certification work in relation to an aspect of development if the registered certifier has done any of the following in relation to that aspect—
(i) provided advice as to how to amend a plan or specification to ensure that the aspect will comply with the Building Code of Australia or a legislative requirement (but not if the advice was merely advice as to how the plan or specification could be amended to comply with a deemed-to-satisfy provision of the Building Code of Australia and the development relates only to a class 1 building or a class 10 building),
(ii) proposed a design option for the aspect of development, including proposing a performance solution to achieve compliance with a performance requirement of the Building Code of Australia.

2.5 Report Limitations

This Report does not include or imply any audit, assessment, or upgrading of the proposed development regarding:

- Disability Discrimination Act 1992 or (Access to Premises Buildings) Standards 2010.
- Deemed to satisfy provisions of Part D4, E3D8, F4D5, F4D6, F4D7 and F4D12 of the BCA.
- Detailed assessment of Australian Standards.
- Requirements of Regulatory Authorities such as Telstra, Telecommunications Supply Authority, Water Supply Authority, Electricity Supply Authority, Work Cover, Roads and Maritime Services (RMS), Local Council, ARTC, Department of Planning and the like.
- Demolition Standards not referred to by the BCA.
- Work Healthy and Safety Act 2011 (Safety in Design)
- Liquor Licensing Act 1997.
- The National Construction Code – Plumbing Code of Australia Volume 3.
- The National Construction Code – Building Code of Australia Volume 2.
- Structural capacity or any inherent FRL's of the building.
- Capacity of design of any Electrical, Fire, Hydraulic or Mechanical Services; and associated services drawings.
- Operating capabilities of any proposed/existing fire protection services such as electrical, mechanical, hydraulic, etc.
- Conditions of Development Consent issued by the Local Consent Authority.
- Planning requirements such as Livable and Adaptable Housing, number of carparks, setbacks, lighting, shadows, etc.
- Review and endorsement of any specialist documentation / drawings other than our report based on the reviewed architectural drawings. Final compliance is confirmed by means of Design Certificates from each specialist legalised by the Construction Certificate.

3.0 Project Profile

3.1 Site Location

The development site being the subject of this report is proposed to be located at 461 Chapel Rd, Bankstown. The site is currently bounded by French Ave to the north, Chapel Rd to the west, and other private allotments to the south, and the east.

The main portion of the site consists of an existing church building.

Figure 3.1 – Site Location

3.2 Proposed Building

The building being subject of this report comprises of twenty (20) storeys plus one (1) underground basement.

The proposed development involves the construction of parking in ground floor and mezzanine level, community halls, foyers, ministry admin, childcare, community multipurpose hall, moveable stage, green room, meeting rooms, residential SOU's, mobility/parking/storage room, roof top residential communal open space, amenities etc.

Figure 3.2 – Proposed development

3.3 Building Use

Class	Level / Location	Description
Class 2	Levels 2-16, part level 17, and level 18	Residential SOU's
Class 7a	Part ground floor, and part mezzanine storey	Carpark
Class 7b	Part ground floor, part mezzanine storey, and part level 17.	Storage
Class 9b	Part ground floor and level 1	Assembly

Note: From the information provided, it is understood that the building will not be used as "a cinema, theatre or concert hall or an indoor sports stadium". Thus, not constituting an Entertainment Venue as per EP&A Regs definition.
Note: Residential Communal Open Space is understood for resident use only, thus considered Class 2.

Table 3.3 – Building Use

3.4 Building Characteristics

Characteristic	Description
Number of Buildings:	One (1)
Type of Construction:	Type A
Floor Area of Building:	Circa 18,200m2
Fire Compartment Size:	Circa 5,020m2
Fire Compartmentation Limit:	- Class 2: N/A - Class 7a: N/A (provided with AS2118.1 sprinkler system) - Class 7b: 5,000m2 & 30,000m3 - Class 9b: 8,000m2 & 48,000m3
Rise in Storeys:	Twenty (20)
Levels Contained:	Twenty (20)
Effective Height:	62.59m (RL's 92.7-30.11=62.59m)
Building Importance Level	Importance Level 2 Note: The building does not exceed an occupancy load of more than 5000 and less than 300 people will congregate in one area of the building.
Fire Compartments:	Four (4)
Required Exits:	Two (2) per storey
Climate Zone:	Zone 5
Fire-source features	- North: Further side of French Avenue - South: Rear boundary - East: Side boundary - West: Further side of Chapel Road

Table 3.4– Building Characteristics

3.5 Project Assumptions

The following assumptions outlined below were made in preparation of this assessment. If any of these assumptions are not correct, please contact the author of this report as it may have an impact on the assessment results.

- There will not be inter-allotment boundaries crossing (or nearby) the proposed building.
- External walls and any attachments to external walls will be fully non-combustible as defined by the BCA (i. e. framing, sarking, insulation, lining, cladding, noggings, etc).
- The building will be provided with a heating/cooling system thus Section J Energy Efficiency will be applicable (assessment excluded from this report).
- The building will be Accessible for people with disabilities (assessment excluded from this report).
- The exits located at open space will be connected to the road by firm pathways and a gradient not steeper than 1:8.
- Travel distances will be calculated to the true exits, which is where open to sky is reached (i. e. edge of roof/awning).
- Small storerooms, plant rooms, etc; associated to the mixed-used building will be ancillary to the main use, thus not adopting its own building classification.
- Any bushfire requirements will be coordinated and approved with the Bushfire Consultant (assessment excluded from this report).
- The building (or part) will not include heritage status that may impede achieving BCA compliance.
- Any fire wall will extend all the way to the external walls of the building and from floor to ceiling/roof.
- Any roof top plant has been assessed as open to the sky (unroofed), thus not constituting a storey.

4.0 Essential Fire Safety Measures (EFSM)

As a result of this BCA assessment, the below list of Essential Fire Safety Measures (EFSM's) is required/expected to be installed/designed in the building. The below table may require update as the design develops and option for compliance are confirmed.

Essential Fire Safety Measures (EFSM)	Standard of Performance	BCA Clause	Proposed EFSM
Access panels, doors & hoppers to fire resisting shafts	AS 1530.4 – 2014	C4D14	☑
Automatic fail-safe devices	--	C4D9, D3D26, Spec 12	☑
Automatic smoke detection & alarm systems	AS 1670.1 – 2018 AS 1668.1 – 2015	E2D3, E2D4, E2D5. E2D6, NSW E2D19, Spec 20	☑
Automatic fire suppression systems (sprinklers)	AS 2118.1 – 2017	E1D4, E1D5, E1D6, Spec 17	☑
Emergency lift	--	E3D5	☑
Emergency lighting	AS 2293.1 – 2018	E4D2, E4D4	☑
Exit signs	AS 2293.1 – 2018	E4D5, NSW E4D6, E4D8	☑
Fire control room	--	E1D15, Spec 19	☑
Fire dampers	AS 1668.1 – 2015	C4D15, Spec 13	☑
Fire doors	AS 1905.1 – 2015	Spec 12	☑
Fire hose reel system	AS 2441 – 2005	E1D3	☑
Fire hydrant system - NSW Storz Couplings	AS 2419.1 – 2021 FRNSW tech Sheet D15/45534.V9	E1D2	☑
Fire seals (protecting openings in fire-resistant building elements)	AS 4072.1 – 2005 AS 1530.4 – 2014	C4D13, C4D14, C4D15, C4D16	☑
Lightweight construction	--	C2D9, Spec 6	☑
Mechanical air handling systems - Auto shutdown - Stair pressurisation - Smoke exhaust	AS 1668.1 – 2015 AS 1668.2 –2012	E2D3, E2D4, E2D5, E2D7, NSW E2D16, NSW E2D19, Spec 20, Spec 21	☑
Portable fire extinguishers & fire blankets	AS 2444 – 2001	E1D14	☑
Emergency warning and intercom systems (EWIS)	AS 1670.4 - 2018	E4D9	☑
Building occupant warning system (BOWS)	AS 1670.1 - 2018	S17C8, S20C7	☑
Warning and operational signs	EP&A Regs Cl 183	C4D7, E3D4, D3D28, D4D7, S19C12	☑
Paths of Travel	EP&A (DCFS) Reg 2021, Part 15 Fire safety offences	D2D7	☑
Smoke doors	--	C3D15, Spec 12	☑
Performance Based Solution, Report No., prepared by, and dated	TBC	TBC	TBC

Table 5.0 – Essential Fire Safety Measures (EFSM)

5.0 Fire Resistance Levels (FRL'S)

Specification S5C11 – Type A Construction: FRL of Building Elements

Item	Class 2	Class 7a & 9b	Class 7b
Loadbearing External Walls			
• Less than 1.5m to a fire source feature	90/90/90	120/120/120	240/240/240
• 1.5 – less than 3m from a fire source feature	90/60/60	120/90/90	240/240/180
• 3m or more from a fire source feature	90/60/30	120/60/30	240/180/90
Non-Loadbearing External Walls			
• Less than 1.5m to a fire source feature	-/90/90	-/120/120	-/240/240
• 1.5 – less than 3m from a fire source feature	-/60/60	-/90/90	-/240/180
• 3m or more from a fire source feature	-/-/-	-/-/-	-/-/-
External Columns			
• Loadbearing	90/-/-	120/-/-	240/-/-
• Non-loadbearing	-/-/-	-/-/-	-/-/-
Common Walls & Fire Walls	90/90/90	120/120/120	240/240/240
Stair and Lift Shafts required to be fire-resisting			
• Loadbearing	90/90/90	120/120/120	240/120/120
• Non-loadbearing	-/90/90	-/120/120	-/120/120
Internal walls bounding sole occupancy units			
• Loadbearing	90/90/90	120/-/-	240/-/-
• Non-loadbearing	-/60/60	-/-/-	-/-/-
Internal walls bounding public corridors, public lobbies and the like:	90/90/90	120/-/-	240/-/-
• Loadbearing	-/60/60	-/-/-	-/-/-
• Non-loadbearing			
Ventilating, pipe, garbage and like shafts:			
• Loadbearing	90/90/90	120/90/90	240/120/120
• Non-loadbearing	-/90/90	-/90/90	-/120/120
Other loadbearing internal walls, beams trusses and columns	90/-/-	120/-/-	240/-/-
Floors	90/90/90	120/120/120	240/240/240
Roofs	90/60/30	120/60/30	240/90/60

Note: See concessions in Spec 5 for potential concessions to these above tabulated requirements.

Table 6.0 – Fire Resistance Levels (FRL's)

BCA seeks to achieve acceptable standards for the benefit of the community.

Addendum A:
CLAUSE BY CLAUSE ASSESSMENT

BASIS OF THE ASSESSMENT

The following table is a clause-by-clause assessment of the reviewed architectural drawings against the deemed-to-satisfy (DTS) provisions of the BCA 2022 Amendment 2.

ACRONYMS & FIGURES

OK	The proposed building design complies with the DTS provisions of this clause.
X	The proposed building design does not comply with the DTS provisions of this clause.
?	Further information is required to clarify DTS compliance.
CRA	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
N/A	Not applicable – This clause is not applicable to this project. No action required.
PSOL	Performance Solution is necessary to achieve compliance with this clause.
Noted	This clause is for informational purposes only, and no additional action is required.

Section A: Governing Requirements		
Part A6 - Building Classification		
Clause	Reference	Comment
A6G3	**Class 2 buildings**	
Noted	(1) A Class 2 building is a building containing two or more sole-occupancy units. (2) Each sole-occupancy unit in a Class 2 building must be a separate dwelling.	This clause is for informational purposes only, and no additional action is required. - The proposed building comprises of residential SOU's thus, classified as a Class 2 building. Note: Level 18 is for residential use only thus classified Class 2.
A6G8	**Class 7 buildings**	
Noted	(1) A Class 7 building is a storage-type building. (2) Class 7 includes the following sub-classifications: (a) Class 7a — a carpark. (b) Class 7b — a building that is used for storage or display of goods or produce for sale by wholesale.	This clause is for informational purposes only, and no additional action is required. - The proposed building comprises of covered carparks, thus classified as a Class 7a building. - Storage, areas comprise of more than 10% of the floor area, thus considered a Class 7b storage building.
A6G10	**Class 9 buildings**	
Noted	(1) A Class 9 building is a building of a public nature. (2) Class 9 includes the following sub-classifications: (a) Class 9a — a health-care building including any parts of the building set aside as laboratories and includes a health-care building used as a residential care building. (b) Class 9b — an assembly building including a trade workshop or laboratory in a primary or secondary school. (c) Class 9c — a residential care building. Note: Class 9b Entertainment Venues in NSW attract additional NCC Requirements	This clause is for informational purposes only, and no additional action is required. The proposed building comprises of assembly building parts, thus classified as a Class 9b building.

Section B: Structure		
Part B1- Structural Provisions		
Clause	**Reference**	**Comment**
B1D1 – B1D6	**Structural considerations, loads and resistance to actions**	
CRA	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where— (a) the most critical action effect on a building or structure is determined in accordance with B1D3 and the general design procedures contained in AS/NZS1170.0; and (b) the resistance of a building or structure is determined in accordance with B1D4. Compliance with the following Australian Standards is required: AS1170.1, AS1170.2, AS1170.3, AS1170.4, AS3700, AS3600, AS4100, AS1288-2006, AS2047, AS1562.1, AS1720.1, AS3660.1, AS4654.1-2, AS4505.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Section C: Fire Provisions		
Part C1 – Fire Resistance (Objectives, Functional Statements, Performance Requirements and Verification Methods)		
There are no longer any DTS Clauses in Part C1 of the BCA 2022 Amendment 2, the provisions have moved throughout this section.		
Part C2 - Fire resistance and stability		
Clause	**Reference**	**Comment**
C2D2	**Type of construction required**	
CRA	(1) The minimum Type of fire-resisting construction of a building must be determined in accordance with Table C2D2, except as allowed for— (a) certain Class 2, 3 or 9c buildings, in C2D6; and (b) a Class 4 part of a building located on the top storey, in C2D4(2); and (c) open spectator stands and indoor sports stadiums, in C2D8. (2) Each building element must comply with Specification 5 as applicable.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is of Type A construction. FRL's across the building are to comply with Specification 5. Colour coded FRL drawings will be required prior to construction.

C2D3	Calculation of rise in storeys	
CRA	(1) The rise in storeys is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space— (a) above the finished ground next to that part; or (b) if part of the external wall is on the boundary of the allotment, above the natural ground level at the relevant part of the boundary. (2) A storey is not counted if— (a) it is situated at the top of the building and contains only heating, ventilating or lift equipment, water tanks, or similar service units or equipment; or (b) it is situated partly below the finished ground and the underside of the ceiling is not more than 1 m above the average finished level of the ground at the external wall, or if the external wall is more than 12 m long, the average for the 12 m part where the ground is lowest. (3) In a Class 7 or 8 building, a storey that has an average internal height of more than 6 m is counted as— (a) one storey if it is the only storey above the ground; or (b) 2 storeys in any other case. (4) For the purposes of calculating the rise in storeys of a building— (a) a mezzanine is regarded as a storey in that part of the building in which it is situated if its floor area is more than 200 m2 or more than ⅓ of the floor area of the room, whichever is the lesser; and (b) two or more mezzanines are regarded as a storey in that part of the building in which they are situated if they are at or near the same level and have an aggregate floor area more than 200 m2 or more than ⅓ of the floor area of the room, whichever is the lesser.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Calculated rise in storeys (RIS) for the proposed building is twenty (20).

C2D4	Buildings of multiple classification	
CRA	(1) In a building of multiple classifications, the Type of construction required for the building is the most fire-resisting Type resulting from the application of Table C2D2 on the basis that the classification applying to the top storey applies to all storeys. (2) In a building containing a Class 4 part on the top storey, for the purpose of (1), the classification applying to the top storey must be— (a) when the Class 4 part occupies the whole of the top storey, the classification applicable to the next highest storey; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is a Type A construction.

	(b) when the Class 4 part occupies part of the top storey, the classification applicable to the adjacent part.	
C2D5	**Mixed types of construction**	
CRA	A building may be of mixed Types of construction where it is separated in accordance with C3D8 and the Type of construction is determined in accordance with C2D2 or C2D4	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is a Type A construction.
C2D9	**Lightweight construction**	
CRA	(1) Lightweight construction must comply with Specification 6 if it is used in a wall system— (a) that is required to have an FRL; or (b) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non fire-isolated passageway or non fire-isolated ramp, in a spectator stand, sports stadium, cinema or theatre, railway station, bus station or airport terminal. (2) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (a) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (b) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
C2D10	**Non-Combustible Building elements**	
CRA	(1) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible: (a) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. (b) The flooring and floor framing of lift pits. (c) Non-loadbearing internal walls where they are required to be fire-resisting. (2) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in— (a) a building required to be of Type A construction; and (b) a building required to be of Type B construction, subject to C3D11, in— (i) a Class 2, 3 or 9 building; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. External walls must be made completely of non-combustible materials (i. e. framing, cladding, insulation, sarking, internal lining, etc). NATA test reports of materials on external walls (i. e. framing, insulation, sarking, lining, cladding, etc) will be required prior to construction. Note: Dincel Wall, Rediwall or the like, may need evidence of compliance with this clause if used on

(ii) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys.
(3) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shafts, must comply with Specification 5.
(4) The requirements of (1) and (2) do not apply to the following:
(a) Gaskets; (b) Caulking; (c) Sealants; (d) Termite management systems; (e) Glass, including laminated glass, and associated adhesives, including tapes;
(f) Thermal breaks associated with—
(i) glazing systems; or
(ii) external wall systems, where the thermal breaks—
(A) are no larger than necessary to achieve thermal objectives; and
(B) do not extend beyond one storey; and
(C) do not extend beyond one fire compartment.
(g) Damp-proof courses.
(h) Compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50 mm.
(i) Isolated—
(i) construction packers and shims; or
(ii) blocking for fixing fixtures; or
(iii) fixings, including fixing accessories; or
(iv) acoustic mounts.
(j) Waterproofing materials applied to the external face, used below ground level and up to 250 mm above ground level.
(k) Joint trims and joint reinforcing tape and mesh of a width not greater than 50 mm.
(l) Weather sealing materials, applied to gaps not wider than 50 mm, used within and between concrete elements.
(m) Wall ties and other masonry components complying with AS 2699 Part 1 and Part 3 as appropriate, and associated with masonry wall construction.
(n) Reinforcing bars and associated minor elements that are wholly or predominately encased in concrete or grout.
(o) A paint, lacquer or a similar finish or coating.
(p) Adhesives, including tapes, associated with stiffeners for cladding systems.
(q) Fire-protective materials and components required for the protection of penetrations.

external walls, due to the presence of polymer materials encase (i. e. Code Mark).

	(5) The following materials, when entirely composed of itself, are non-combustible and may be used wherever a non-combustible material is required: (a) Concrete; (b) Steel, including metallic coated steel; (c) Masonry, including mortar; (d) Aluminium, including aluminium alloy; (e) Autoclaved aerated concrete, including mortar; (f) Iron; (g) Terracotta; (h) Porcelain; (i) Ceramic; (j) Natural stone; (k) Copper; (l) Zinc; (m) Lead, (n) Bronze; (o) Brass. (6) The following materials may be used wherever a non-combustible material is required: (a) Plasterboard. (b) Perforated gypsum lath with a normal paper finish. (c) Fibrous-plaster sheet. (d) Fibre-reinforced cement sheeting. (e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (f) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (g) Bonded laminated materials where— (i) each lamina, including any core, is non-combustible; and (ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (iii) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively; and (iv) when located externally, are fixed in accordance with C2D15.	
NSW C2D11	**Fire hazard properties**	
CRA	(1) The fire hazard properties of the following internal linings, materials and assemblies within a Class 2 to 9 building must comply with Specification 7: (a) Floor linings and floor coverings. (b) Wall linings and ceiling linings. (c) Air-handling ductwork. (d) Lift cars. (e) In Class 9b buildings used as— (i) an entertainment venue, a material used to cover closed back upholstered seats; and (ii) a public hall or the like, a proscenium curtain required by Specification 32.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Floor: Critical Radiant Flux (CRF) of not less than 1.2kW/m2 for sprinkler protected building. - Wall and Ceiling: 1, or 2 group materials. - Lift Cars: CRF of 2.2 or more for floors, and Group 1 or 2 material for the wall/ceilings. - Sarking: Flammability Index (FI) shall not be more than 5.

(f) Escalators, moving walkways and non-required non fire-isolated stairways or pedestrian ramps subject to Specification 14.
(g) Sarking-type materials.
(h) Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls.
(i) Other materials including insulation materials other than sarking-type materials.
(2) Paint or fire-retardant coatings must not be used in order to make a material comply with a required fire hazard property, except in respect of a material referred to in NSW Specification 7, NSW Table S7C7 and to which Notes 4 and 5 are applicable.
(3) The requirements of (1) do not apply to a material or assembly if it is—
(a) plaster, cement render, concrete, terrazzo, ceramic tile or the like; or
(b) a fire-protective covering; or
(c) a timber-framed window; or
(d) a solid timber handrail or skirting; or
(e) a timber-faced door; or
(f) an electrical switch, socket-outlet, cover plate or the like; or
(g) a material used for—
(i) a roof insulating material applied in continuous contact with a substrate; or
(ii) an adhesive; or
(iii) a damp-proof course, flashing, caulking, sealing, ground moisture barrier, or the like; or
(h) a paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer; or
(i) a clear or translucent roof light of glass fibre-reinforced polyester if—
(i) the roof in which it is installed forms part of a single storey building required to be Type C construction; and
(ii) the material is used as part of the roof covering; and
(iii) it is not closer than 1.5 m from another roof light of the same type; and each roof light is not more than 14 m2 (iv) in area; and the area of the roof lights per 70 m2 of roof surface is not more than 14 m2 (v) ; or
(j) a face plate or neck adaptor of supply and return air outlets of an air handling system; or
(k) a face plate or diffuser plate of light fitting and emergency exit signs and associated electrical wiring and electrical components; or
(l) a joinery unit, cupboard, shelving, or the like; or

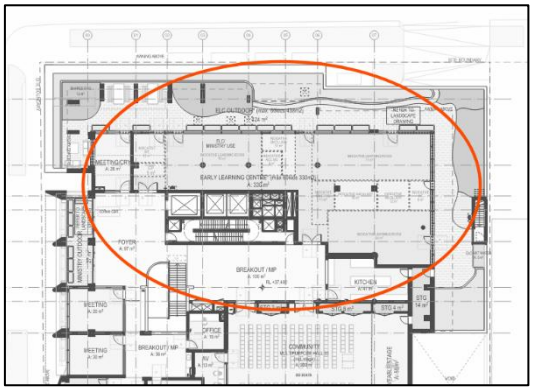
- Insulation: Spread of flame index shall not be more than 5.
NATA test reports of internal lining (i. e. flooring, ceiling, walls, ducting) will be required prior to construction.

	(m) an attached non-building fixture and fitting such as— (i) a curtain, blind, or similar decor, other than— (A) a proscenium curtain required by Specification 32; or (B) in a Class 9b building used as an entertainment venue, a material regulated under ; and (ii) a whiteboard, window treatment or the like; or (n) timber treads, risers, landings and associated supporting framework installed in accordance with D3D30 where the Spread-of-Flame Index and the Smoke-Developed Index of the timber does not exceed 9 and 8 respectively; or (o) any other material that does not significantly increase the hazards of fire.	
C2D14	**Ancillary elements**	
CRA	An ancillary element must not be fixed, installed, attached to or supported by the concealed internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following: (a) An ancillary element that is non-combustible. (b) A gutter, downpipe or other plumbing fixture or fitting. (c) A flashing. A grate, grille or similar cover not more than 2 m2 (d) in area associated with a building service. (e) An electrical switch, socket-outlet, cover plate or the like. (f) A light fitting. (g) A required sign. (h) A sign other than one provided under (a) or (g) that— (i) achieves a group number of 1 or 2; and (ii) does not extend beyond one storey; and (iii) does not extend beyond one fire compartment; and (iv) is separated vertically from other signs permitted under (h) by at least 2 storeys. (i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— (i) meets the relevant requirements of Table S7C7 as for an internal element; and (ii) serves a storey— (A) at ground level; or (B) immediately above a storey at ground level; and (iii) does not serve an exit, where it would render the exit unusable in a fire. (j) A part of a security, intercom or announcement system.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary Any ancillary elements attached to the external wall (i.e. awning, shades, privacy screen, louver, or the like) must be made of non-combustible materials. NATA Test Reports will be required prior to construction.

	(k) Wiring. (l) Waterproofing material installed in accordance with AS 4654.2 and applied to an adjacent floor surface, including vertical upturn, or a roof surface. (m) Collars, sleeves and insulation associated with service installations. (n) Screens applied to vents, weepholes and gaps complying with AS 3959. (o) Wiper and brush seals associated with doors, windows or other openings. (p) A gasket, caulking, sealant or adhesive directly associated with (a) to (o).	
C2D15	**Fixing of bonded laminated cladding panels**	
CRA	(1) In a building required to be of Type A or B construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. (2) An externally located bonded laminated cladding panel need not comply with (1) if it is one of the following: (a) A laminated glass system; (b) Layered plasterboard product; (c) Perforated gypsum lath with a normal paper finish; (d) Fibrous-plaster sheet; (e) Fibre-reinforced cement sheeting; (f) A component of a garage door.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part C3 – Compartmentation and Separation		
Clause	**Reference**	**Comment**
C3D3	**General floor area and volume limitations**	
OK	(1) The size of any fire compartment or atrium in a Class 5, 6, 7, 8 or 9 building must not exceed the relevant maximum floor area nor the relevant maximum volume set out in Table C3D3 and C3D6 except as permitted in C3D4. (2) A part of a building which contains only heating, ventilating, or lift equipment, water tanks, or similar service units is not counted in the floor area or volume of a fire compartment or atrium if it is situated at the top of the building. (3) In a building containing an atrium, the part of the atrium well bounded by the perimeter of the openings in the floors and extending from the level of the first floor above the atrium floor to the roof covering is not counted in the volume of the atrium for the purposes of this clause.	The proposed building design complies with the DTS provisions of this clause. Fire compartments are within the limitation of this clause.

NSW C3D6	Class 9 buildings
PSOL	(1) A Class 9a health-care building must comply with the following: (a) patient care areas must be divided into fire compartments not exceeding 2000 m2 (a). (b) A fire compartment must be separated from the remainder of the building by fire walls and— (i) in Type A construction—floors and roof or ceiling as required in Specification 5; and (ii) in Type B construction—floors with an FRL of not less than 120/120/120 and with the openings in external walls bounding patient care areas being vertically separated in accordance with the requirements of C3D7 as if the building were of Type A construction. (c) Ward areas—where the floor area exceeds 1000 m2, must be divided into floor areas not more than 1000 m2 (i) by walls with an FRL of not less than 60/60/60; and where the floor area exceeds 500 m2, must be divided into floor areas not more than 500 m2 (ii) by smoke-proof walls complying with Specification 11; and where the floor area is not more than 500 m2 (iii) , must be separated from the remainder of the patient care area by smoke-proof walls complying with Specification 11; and (iv) where division of ward areas by fire-resisting walls under (a) or (c)(i) is not required, any smoke-proof wall required under (c)(ii) or (iii) must have an FRL of not less than 60/60/60. (d) Treatment areas— (i) where the floor area exceeds 1000 m2, must be divided into floor areas not more than 1000 m2 by smoke-proof walls complying with Specification 11; and (ii) where the floor area is not more than 1000 m2 , must be separated from the remainder of the patient care area by smoke-proof walls complying with Specification 11. (e) Ancillary use areas located within a patient care area and containing equipment or materials that are a high potential fire hazard, must be separated from the remainder of the patient care area by walls with an FRL of not less than 60/60/60. (f) The ancillary use areas referred to in (e) include, but are not limited to, the following: (i) A kitchen and related food preparation areas having a combined floor area of more than 30 m2. (ii) A room containing a hyperbaric facility (pressure chamber). (iii) A room used predominantly for the storage of medical records having a floor area of more than 10 m2. (iv) A laundry, where items of equipment are of the type that are potential fire sources (e.g. gas fire dryers). (g) A wall required by (e) to separate ancillary use areas from the remainder of the building must extend to the underside of—

Performance Solution is necessary to achieve compliance with this clause.
Childcare (Class 9b) must have 2 fire compartments and associated horizontal exits (2 per compartment, 9m min apart) which are currently not provided. **To be rectified. Alternatively, Fire Engineer to assess and if a Performance Solution is feasible.**



(i) the floor above; or
(ii) a non-combustible roof covering; or
(iii) a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes.
(h) Openings in walls required by (c) and (e) to have an FRL must be protected as follows:
(i) Doorways—self-closing or automatic closing –/60/30 fire doors.
(ii) Windows—automatic or permanently fixed closed –/60/– fire windows or –/60/– automatic fire shutters.
(iii) Other openings—construction having an FRL not less than –/60/–.
(2) In a building containing a Class 9b early childhood centre—
(a) 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
(b) each storey within the Class 9b early childhood centre must contain not less than 2 fire compartments.
(3) A Class 9c building must comply with the following:
(a) A building must be divided into areas not more than 500 m2 by smoke proof walls complying with Specification 11.
(b) A fire compartment must be separated from the remainder of the building by fire walls and notwithstanding C3D8 and Specification 5, floors with an FRL of not less than 60/60/60.
(c) Except for walls provided in accordance with (3)(a) and (b), non-loadbearing internal walls, and if a building is of Type C construction — all internal walls, between and bounding sole-occupancy units and bounding a public corridor in a resident use area must:
(i) be lined on each side with standard grade plasterboard not less than 13 mm thick or a material with at least an equivalent level of fire protection; and
(ii) if provided with cavity insulation, contain only non-combustible insulation; and
(iii) extend to the underside of—
(A) the floor next above; or
(B) a ceiling lined with standard grade plasterboard not less than 13mm thick or an equivalent non-combustible material; or
(C) a non-combustible roof covering; and

	(iv) not incorporate any penetrations above door head height unless the penetrations are adequately stopped to prevent the free passage of smoke; and (v) be smoke sealed with intumescent putty or other suitable material at any construction joint, space or the like between the top of the wall and the floor, ceiling or roof. (d) Loadbearing internal walls must comply with the requirements of Specification 5 and (c)(ii), (iii), (iv) and (v) above. (e) Ancillary use areas containing equipment or materials that are a high potential fire hazard, must be separated from the sole-occupancy units by smoke proof walls complying with Specification 11. (f) The ancillary use areas referred to in (e) include, but are not limited to, the following: (i) A kitchen and related food preparation areas having a combined floor area of more than 30 m2. (ii) A laundry, where items of equipment are of the type that are potential fire sources (e.g. gas fire dryers). (iii) Storage rooms greater than 10 m2 used predominantly for the storage of administrative records. (g) Openings in fire walls must be protected as follows: (i) Doorways — self-closing or automatic closing –/60/30 fire doors. (ii) Windows — automatic or permanently fixed closed –/60/– fire windows or –/60/– automatic fire shutters. (iii) Other openings — construction having an FRL not less than –/60/–. Exemption: C3D6(2) does not apply to a Class 9b early childhood centre— (a) wholly within a storey that provides direct egress to a road or open space; or (b) with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in the building.	
C3D7	**Vertical separation of openings in external walls**	
N/A	(1) If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the openings must be separated by— (a) a spandrel which— (i) is not less than 900 mm in height; and (ii) extends not less than 600 mm above the upper surface of the intervening floor; and (iii) is of non-combustible material having an FRL of not less than 60/60/60; or (b) part of a curtain wall or panel wall that complies with (a); or	Not applicable – This clause is not applicable to this project. No action required. The building is required to be provided with AS2118.1 sprinkler system, thus compliance with this clause is not necessary.

	(c) construction that complies with (a) behind a curtain wall or panel wall and has any gaps packed with a non-combustible material that will withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke; or (d) a slab or other horizontal construction that— (i) projects outwards from the external face of the wall not less than 1100 mm; and (ii) extends along the wall not less than 450 mm beyond the openings concerned; and (iii) is non-combustible and has an FRL of not less than 60/60/60. (2) The requirements of (1) do not apply to— (a) an open-deck carpark; or (b) an open spectator stand; or (c) a building which has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout; or (d) openings within the same stairway; or (e) openings in external walls where the floor separating the storeys does not require an FRL with respect to integrity and insulation. (3) For the purposes of C3D7, window or other opening means that part of the external wall of a building that does not have an FRL of 60/60/60 or greater.	
C3D8	**Separation by fire walls**	
CRA	(1) Construction — A fire wall must be constructed in accordance with the following: (a) The fire wall has the relevant FRL prescribed by Specification 5 for each of the adjoining parts, and if these are different, the greater FRL, except where S5C18(c), S5C21(3) and S5C25(1) permit a lower FRL on the carpark side. (b) Any openings in a fire wall must not reduce the FRL required by Specification 5 for the fire wall, except where permitted by the Deemed-to-Satisfy Provisions of Part C4. (c) Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire-resisting performance of the fire wall is maintained. (2) Separation of buildings — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate building for the purposes of the Deemed-to-Satisfy Provisions of Sections C, D and E if it is constructed in accordance with (1) and the following: (a) The fire wall extends through all storeys and spaces in the nature of storeys that are common to that part and any adjoining part of the building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Required fire walls separating different building classifications are to be constructed in accordance with S5C11d (slab to slab) to comply with this clause. Colour coded drawings required for review prior to construction.

	(b) The fire wall is carried through to the underside of the roof covering. (c) Where the roof of one of the adjoining parts is lower than the roof of the other part, the fire wall extends to the underside of— (i) the covering of the higher roof, or not less than 6 m above the covering of the lower roof; or (ii) the lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3 m to any wall above the lower roof; or (iii) the lower roof if its covering is non-combustible and the lower part has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. (3) Separation of fire compartments — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with (a) and the fire wall extends to the underside of— (a) a floor having an FRL required for a fire wall; or (b) the roof covering.	
C3D9	**Separation of classifications in the same storey**	
CRA	(1) If a building has parts of different classifications located alongside one another in the same storey— (a) each building element in that storey must have the higher FRL prescribed in Specification 5 for that element for the classifications concerned; or (b) the parts must be separated in that storey by a fire wall. (2) A fire wall required by (1)(b) must have the FRL prescribed in accordance with Specification 5 as applicable for that element for the Type of construction and the classifications concerned. (3) For the purposes of (2), the FRL in Specification 5 must be either— (a) the higher FRL prescribed in Table S5C11d or S5C21d; or (b) the FRL prescribed in Table S5C24c. (4) For the purposes of (1), where one part is a carpark complying with S5C19, S5C22 or S5C25, the parts may be separated by a fire wall complying with S5C19, S5C22 or as appropriate.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Required fire walls separating different building classifications are to be constructed in accordance with S5C11d (slab to slab) to comply with this clause. Colour coded drawings required for review prior to construction.
C3D10	**Separation of classifications in different storeys**	
CRA	If parts of different classification are situated one above the other in adjoining storeys they must be separated as follows: (a) Type A construction — The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification 5 for the classification of the lower storey.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) Type B or C construction — If one of the adjoining parts is of Class 2, 3 or 4, the floor separating the part from the storey below must— (i) be a floor/ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or (ii) have an FRL of at least 30/30/30; or (iii) have a fire-protective covering on the underside of the floor, including beams incorporated in it, if the floor is combustible or of metal.	Required fire walls (slab) separating different building classifications are to be constructed in accordance with S5C11d to comply with this clause. Colour coded drawings required for review prior to construction.
C3D11	**Separation of lift shafts**	
CRA	(1) Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered, (other than lifts which are wholly within an atrium) must be separated from the remainder of the building by enclosure in a shaft in which— (a) in a building required to be of Type A construction — the walls have the relevant FRL prescribed by Specification 5; and (b) in a building required to be of Type B construction — the walls— (i) if loadbearing, have the relevant FRL prescribed by S5C21a, S5C21b, S5C21c, S5C21d, S5C21e and S5C21f of Specification 5; or (ii) if non-loadbearing, be of non-combustible construction. (2) Any lift in a patient care area in a Class 9a health-care building or a resident use area in Class 9c building must be separated from the remainder of the building by a shaft having an FRL of not less than— (a) in a building of Type A or B construction — 120/120/120; or (b) in a building of Type C construction — 60/60/60. (3) An emergency lift must be contained within a fire-resisting shaft having an FRL of not less than 120/120/120. (4) Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed lift shafts connect more than three (3) storeys in a sprinkler protected building, thus, required to be fire isolated.
C3D12	**Stairways and lifts in one shaft**	
OK	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.	The proposed building design complies with the DTS provisions of this clause. Lifts and stairs are not sharing the same shaft, in compliance with this clause.

C3D13	**Separation of equipment**	
CRA	(1) Equipment other than that described in (2) and (3) must be separated from the remainder of the building with construction complying with (4), if that equipment comprises— (a) lift motors and lift control panels; or (b) emergency generators used to sustain emergency equipment operating in the emergency mode; or (c) central smoke control plant; or (d) boilers; or (e) a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. (2) Equipment need not be separated in accordance with (1) if the equipment comprises— (a) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification 21; or (b) stair pressurising equipment installed in compliance with the relevant provisions of AS 1668.1; or (c) a lift installation without a machine-room; or (d) equipment otherwise adequately separated from the remainder of the building. (3) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (4) Separating construction must have— (a) except as provided by (b)— (i) an FRL as required by Specification 5, but not less than 120/120/120; and (ii) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (b) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Emergency equipment to be identified and enclosed in rooms with 2hrs FRL minimum if necessary. - It is understood that no batteries over the limitations of this clause (12 volts or 200kWh) are proposed. Electrical Engineer to assess and confirm compliance with this clause prior to construction.
C3D14	**Electricity supply system**	
CRA	(1) An electricity substation located within a building must— (a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (2) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Electrical distribution board / main switch board room to be provided with 2hrs FRL if sustaining emergency equipment. Electrical Engineer to assess and confirm compliance prior to construction.

	(a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (3) Subject to (4), electrical conductors must— (a) have a classification in accordance with AS/NZS 3013 of not less than— (i) if located in a position that could be subject to damage by motor vehicles — WS53W; or (ii) otherwise — WS52W; or (b) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120. (4) The requirements of (3) only apply to electrical conductors located within a building that supply— (a) a substation located within the building which supplies a main switchboard covered by (2); or (b) a main switchboard covered by (2). (5) Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear. (6) For the purposes of (5), emergency equipment includes but is not limited to the following: (a) Fire hydrant booster pumps. (b) Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like. (c) Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building. (d) Air handling systems designed to exhaust and control the spread of fire and smoke. (e) Emergency lifts. (f) Control and indicating equipment. (g) Emergency warning and intercom systems	- Substation is located adjacent the building thus it will be provided with FRL 120/120/120. Electrical Engineer to assess and confirm compliance prior to construction. Note: Care is to be taken with additional FRL's (2-3 hrs) that may be required by the energy provider (i. e. Ausgrid). This is not a BCA requirement.
C3D15	**Public corridors in Class 2 and 3 buildings**	
OK	In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with S11C2.	The proposed building design complies with the DTS provisions of this clause.

		Residential corridors over 40m long are provided with smoke doors swinging in both directions, in compliance with this clause.
Part C4 – Protection of Openings		
Clause	**Reference**	**Comment**
C4D3	**Protection of openings in external walls**	
CRA	(1) Subject to (2), openings in an external wall that is required to have an FRL must be protected in accordance with C4D5, and if wall-wetting sprinklers are used they must be located externally. (2) The requirements of (1) only apply if the distance between the opening and the fire-source feature to which it is exposed is less than— (a) 3 m from a side or rear boundary of the allotment; or (b) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or (c) 6 m from another building on the allotment that is not Class 10. (3) Openings in an external wall that is required to have an FRL, if required to be protected under (1), must not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Openings on external walls located closer than 3m from the fire-source features (side boundary) to be protected in accordance with Clause C4D5.
C4D5	**Acceptable methods of protection**	
CRA	(1) Where protection is required, doorways, windows and other openings must be protected as follows: (a) Doorways— (i) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (ii) –/60/30 fire doors that are self-closing or automatic closing. (b) Windows— (i) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (ii) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or (iii) –/60/– automatic closing fire shutters. (c) Other openings— (i) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Refer to Clause C4D3.

	(ii) construction having an FRL not less than –/60/–. (2) Fire doors, fire windows and fire shutters must comply with Specification 12	
C4D6	**Doorways in fire walls**	
CRA	(1) The aggregate width of openings for doorways in a fire wall, which are not part of a horizontal exit, must not exceed ½ of the length of the fire wall, and each doorway must be protected by— (a) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of not less than ½ that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30; or (b) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (a); or (c) a single fire door or fire shutter which has an FRL of not less than that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30. (2) A fire door or fire shutter required by (1)(a), (b) or (c) must be self-closing, or automatic closing in accordance with (3) and (4). (3) The automatic closing operation required by (2) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening. (4) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
C4D9	**Openings in fire-isolated exits**	
CRA	(1) Doorways that open to fire-isolated stairways, fire-isolated passageways or fire-isolated ramps, and are not doorways opening to a road or open space, must be protected by –/60/30 fire doors that are self-closing, or automatic closing in accordance with (2) and (3). (2) The automatic-closing operation required by (1) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Required fire isolated exits doorways are to be provided with self-closing fire doors of an FRL of -/60/30 to comply with this clause.

	(3) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system must also initiate the automatic closing operation. (4) A window in an external wall of a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp must be protected in accordance with C4D5 if it is within 6 m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure.	
C4D10	**Service penetrations in fire-isolated exits**	
CRA	Fire-isolated exits must not be penetrated by any services other than— (a) electrical wiring permitted by D3D8(6) to be installed within the exit; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part of the building; or (c) for fire services, water supply and test drain pipes.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. No services are proposed penetrating fire-isolated stairs.
C4D11	**Openings in fire-isolated lift shafts**	
CRA	(1) Doorways — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by –/60/– fire doors that— (a) comply with AS 1735.11; and (b) are set to remain closed except when discharging or receiving passengers, goods or vehicles. (2) Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than –/60/60 if it exceeds 35000 mm2 in area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Door in lift is to be provided with an FRL of -/60/-
NSW C4D12	**Bounding construction: Class 2 and 3 buildings and Class 4 parts**	
CRA	(1) A doorway in a Class 2 or 3 building must be protected if it provides access from a sole-occupancy unit to— (a) a public corridor, public lobby, or the like; or (b) a room not within a sole-occupancy unit; or (c) the landing of an internal non fire-isolated stairway that serves as a required exit; or (d) another sole-occupancy unit. (2) A doorway in a Class 2 or 3 building must be protected if it provides access from a room not within a sole-occupancy unit to—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - SOU's and associated public corridors require 60-90min FRL bounding construction as per Specification 5. From the information provided. Self-closing doorways and associated frames to SOU's are to have an FRL of -/60/30.

(a) a public corridor, public lobby, or the like; or
(b) the landing of an internal non fire-isolated stairway that serves as a required exit.
(3) A doorway in a Class 4 part of a building must be protected if it provides access to any other internal part of the building.
(4) Except as provided for in NSW C4D12(5), protection for a doorway required under (1), (2) or (3) must be at least—
(a) in a building of Type A construction — a self-closing –/60/30 fire door; and
(b) in a building of Type B or C construction — a self-closing, tight fitting, solid core door not less than 35 mm thick.
(5) In a Class 3 building used as a residential care building protected with a sprinkler system complying with Specification 17, protection for a doorway must be at least a tight-fitting solid core door not less than 35 mm thick that is—
(a) self-closing; or
(b) fitted with a free arm closing device which closes the door or causes the door to remain closed (without preventing manual re-opening), upon the detection of smoke caused by a smoke detector located within the room
(6) Other openings in internal walls which are required to have an FRL with respect to integrity and insulation must not reduce the fire-resisting performance of the wall.
(7) A door required by (4) or (5) may be automatic closing in accordance with the following:
(a) The automatic-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway.
(b) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system must also initiate the automatic-closing operation.
(8) The requirements of (9) apply in a Class 2 or 3 building where a path of travel to an exit—
(a) does not provide a person seeking egress with a choice of travel in different directions to alternative exits; and
(b) is along an open balcony, landing or the like; and
(c) passes an external wall of—
(i) another sole-occupancy unit; or

- Proposed parking/storage (level 2), and Storage room (level 17) will be provided with bounding construction including self-closing fire doors.

	(ii) a room not within a sole-occupancy unit. (9) The external wall mentioned in (8)(c) must— (a) be constructed of concrete or masonry, or be lined internally with a fire-protective covering; and (b) have any doorway fitted with a self-closing, tight-fitting solid core door not less than 35 mm thick; and (c) have any windows or other openings— (i) protected internally in accordance with C4D5; or (ii) located at least 1.5 m above the floor of the balcony, landing or the like (10) In a Class 9b building used as an entertainment venue, openings in construction required to separate one space from another must be protected in accordance with C4D5.	
C4D13	**Openings in floors and ceilings for services**	
CRA	(1) Where a service passes through— (a) a floor that is required to have an FRL with respect to integrity and insulation; or (b) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (2). (2) A service must be protected— (a) in a building of Type A construction, by a shaft complying with Specification 5; or (b) in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or (c) in accordance with C4D15. (3) Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary Refer to Clause C4D15.
C4D14	**Openings in shafts**	
CRA	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by— (a) if it is in a sanitary compartment — a door or panel which, together with its frame, is non-combustible or has an FRL of not less than –/30/30; or (b) a self-closing –/60/30 fire door or hopper; or (c) an access panel having an FRL of not less than –/60/30; or (d) if the shaft is a garbage shaft — a door or hopper of non-combustible construction.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary Doors in shafts (i.e. chutes, exhausts, etc) are required to achieve the necessary FRL as per Spec 5. Refer to Clause S5C8.

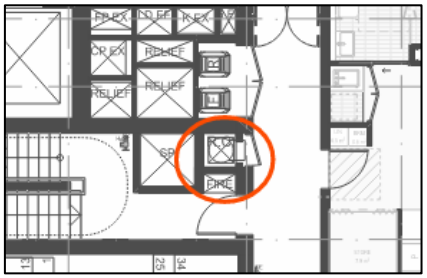
C4D15	Openings for service installations	
CRA	(1) The requirements of (2) apply where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire. (2) An installation mentioned in (1) must comply with any one of the following: (a) Tested systems — the following applies: (i) The service, building element and any protection method at the penetration— (A) are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire; or (B) differ from a prototype assembly of the service, building element and protection method in accordance with Section 4 of AS 4072.1. (ii) It complies with (i) except for the insulation criteria relating to the service if— (A) the service is a pipe system comprised entirely of metal (excluding pipe seals or the like); and (B) any combustible building element is not located within 100 mm of the service for a distance of 2 m from the penetration; and (C) combustible material is not able to be located within 100 mm of the service for a distance of 2 m from the penetration; and (D) it is not located in a required exit. (iii) The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Specifications 1 and 2. (b) Ventilation and air-conditioning — in the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS 1668.1. (c) Compliance with Specification 13 — the following applies: (i) The service is a pipe system comprised entirely of metal (excluding pipe seals or the like) and is installed in accordance with Specification 13 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling required to have a resistance to the incipient spread of fire; and (B) connects not more than 2 fire compartments in addition to any fire-resisting service shafts; and (C) does not contain a flammable or combustible liquid or gas. (ii) The service is sanitary plumbing installed in accordance with Specification 13 and it—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Assessment of fire stopping methods (i.e. fire collars, fire dampers, fire pillows, mastic etc) to protect penetrations of services through elements required to have an FRL (i.e. slabs, beams, shafts, etc) is required. Passive Fire Specialist to assess and confirm compliance prior to construction. Note: NATA Test Reports and fire stopping methods will be required. Note: Service is available under a separate engagement.

	(A) is of metal or UPVC pipe; and (B) penetrates the floors of a Class 5, 6, 7, 8 or 9b building; and (C) is in a sanitary compartment separated from other parts of the building by walls with the FRL required by Specification 5 for a stair shaft in the building and a self-closing –/60/30 fire door. (iii) The service is a wire or cable, or a cluster of wires or cables installed in accordance with Specification 13 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling required to have a resistance to the incipient spread of fire; and (B) connects not more than 2 fire compartments in addition to any fire-resisting service shafts. (iv) The service is an electrical switch, outlet, or the like, and it is installed in accordance with Specification 13.	
C4D16	**Construction joints**	
CRA	(1) 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— (a) identical with a prototype tested in accordance with AS 4072.1 and AS 1530.4 to achieve the required FRL; or (b) that differs from a prototype in accordance with Section 4 of AS 4072.1 and achieves the required FRL. (2) The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Specifications 1 and 2. (3) 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 Specification 9.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary Refer to Clause C4D15.
C4D17	**Columns protected with lightweight construction to achieve an FRL**	
CRA	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 prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Refer to Clause C4D15.

Specification 5 – Fire Resisting Construction		
Clause	Reference	Comment
S5C2	**Exposure to fire-source features**	
CRA	(1) A part of a building element is exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that— (a) has an FRL of not less than 30/–/–; and (b) is neither transparent nor translucent. (2) A part of a building element is not exposed to a fire-source feature if the fire-source feature is— (a) an external wall of another building that stands on the allotment and the part concerned is more than 15 m above the highest part of that external wall; or (b) a side or rear boundary of the allotment and the part concerned is below the level of the finished ground at every relevant part of the boundary concerned. (3) If various distances apply for different parts of a building element— (a) the entire element must have the FRL applicable to that part having the least distance between itself and the relevant fire-source feature; or (b) each part of the element must have the FRL applicable according to its individual distance from the relevant fire-source feature. (4) The requirements of (3) do not override or permit any exemption from S5C3.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S5C3	**Fire protection for a support of another part**	
CRA	(1) 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, subject to (2), must— (a) have an FRL not less than that required by other provisions of this Specification; and (b) if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required— (i) for the supporting part itself; and (ii) for the part it supports; and (c) be non-combustible— (i) if required by other provisions of this Specification; or (ii) if the part it supports is required to be non-combustible. (2) The following building elements need not comply with (1)(b) and (1)(c)(ii):	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(a) An element providing lateral support to an external wall complying with S5C24(1)(b) or C2D12. (b) An element providing support within a carpark and complying with S5C19, S5C22 or S5C25. (c) A roof providing lateral support in a building— (i) of Type A construction if it complies with S5C15(a), (b) or (d); and (ii) of Type B and C construction. (d) A column providing lateral support to a wall where the column complies with S5C6(1) and (2). (e) An element providing lateral support to a fire wall or fire-resisting wall, provided the wall is supported on both sides and failure of the element on one side does not affect the fire performance of the wall.	
S5C4	**Lintels**	
CRA	(1) A lintel must have the FRL required for the part of the building in which it is situated. (2) A lintel need not comply with (1) if it does not contribute to the support of a fire door, fire window or fire shutter, and— (a) it spans an opening in— (i) a wall of a building containing only one storey; or (ii) a non-loadbearing wall of a Class 2 or 3 building; or (b) it spans an opening in masonry which is not more than 150 mm thick and— (i) not more than 3 m wide if the masonry is non-loadbearing; or (ii) not more than 1.8 m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S5C5	**Method of attachment not to reduce the fire-resistance of building elements**	
CRA	The method of attaching or installing a finish, lining, ancillary element or service installation to the building element must not reduce the fire-resistance of that element to below that required.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S5C6	**General concessions**	
CRA	(1) Steel columns — A steel column, other than one in a fire wall or common wall, need not have an FRL in a building that contains— (a) only 1 storey; or (b) 2 storeys in some of its parts and 1 storey only in its remaining parts if the sum of the floor areas of the upper storeys of its 2 storey parts does not exceed the lesser of— (i) 1/8 of the sum of the floor areas of the 1 storey parts; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(ii) in the case of a building to which one of the maximum floor areas specified in Table C3D3 is applicable — 1/10of that area; or
(iii) in the case of a building to which two or more of the maximum floor area specified in Table C3D3 is applicable — 1/10 of the lesser of those areas.
(2) Timber columns — A timber column may be used in a single storey building if—
(a) in a fire wall or common wall the column has an FRL not less than that listed in the appropriate Table S5C11d, S5C21d or S5C24c as appropriate; and
(b) in any other case where the column is required to have an FRL in accordance with Table S5C11a, S5C11c, S5C11g, S5C21a, S5C21c, S5C21g, S5C24a or S5C24b it has an FRL of not less than 30/–/–.
(3) Structures on roofs — A non-combustible structure situated on a roof need not comply with the other provisions of this Specification if it only contains—
(a) lift motor equipment; or
(b) one or more of the following:
(i) Hot water or other water tanks.
(ii) Ventilating ductwork, ventilating fans and their motors.
(iii) Air-conditioning chillers.
(iv) Window cleaning equipment.
(v) Other service units that are non-combustible and do not contain flammable or combustible liquids or gases.
(4) Curtain walls and panel walls — A requirement for an external wall to have an FRL does not apply to a curtain wall or panel wall which is of non-combustible construction and fully protected by automatic external wall-wetting sprinklers.
(5) Balconies and verandas — A balcony, veranda or the like and any incorporated supporting part, which is attached to or forms part of a building, need not comply with Table S5C11c, S5C11g, S5C21c, S5C21g, S5C24b or S5C24e if—
(a) it does not form part of the only path of travel to a required exit from the building; and
(b) in Type A construction—
(i) it is situated not more than 2 storeys above the lowest storey providing direct egress to a road or open space; and
(ii) any supporting columns are of non-combustible construction.

S5C8	Enclosure of shafts	
PSOL	(1) Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building. (2) The provisions of (1) need not apply to— (a) the top of a shaft extending beyond the roof covering, other than one enclosing a fire-isolated stairway or ramp; or (b) the bottom of a shaft if it is non-combustible and laid directly on the ground	Performance Solution is necessary to achieve compliance with this clause. Garbage chute will not be provided with a compliant fire-rated enclosure at base of the fire-rated shaft, in non-compliance with this clause. To be rectified. Alternatively, Fire Engineer to assess and advise if a Performance Solution is feasible. 

S5C11	Fire-resistance of building elements – Type A Construction	
CRA	(1) In a building required to be of Type A construction— (a) each building element listed in Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f and S5C11g and any beam or column incorporated in it, must have an FRL not less than that listed in those Tables for the particular Class of building concerned; and (b) any internal wall required to have an FRL with respect to integrity and insulation must extend to— (i) the underside of the floor next above; or (ii) the underside of a roof complying with Table S5C11g; or (iii) if under S5C15 the roof is not required to comply with Table S5C11g, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or (iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes; and (c) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from— (i) concrete; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Refer to Section 6 of this report which outlines the required FRL's from this clause.

	(ii) masonry; or (iii) subject to (2), fire-protected timber; or (iv) any combination of (i) to (iii); and (d) the FRLs specified in Table S5C11c for an external column apply also to those parts of an internal column that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature. (2) For the purposes of (1)(c)(iii), fire-protected timber may be used, provided that— (a) the building is— (i) a separate building; or (ii) a part of a building— (A) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or (B) which is located above or below a part not containing fire-protected timber and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a fire wall for the lower storey; and (b) the building has an effective height of not more than 25 m; and (c) the building has a sprinkler system (other than a FPAA101D or FPAA101H system) throughout complying with Specification 17; and (d) any insulation installed in the cavity of the timber building element required to have an FRL is non-combustible; and (e) cavity barriers are provided in accordance with Specification 9. (3) For the purposes of Table S5C11a and Table S5C11b, external wall includes any column and other building element incorporated within it or other external building element. Note: Refer to Section 6 of this report which outlines the required FRL from this clause.	
S5C12	**Concessions for floors**	
CRA	A floor need not comply with Table S5C11g if— (a) it is laid directly on the ground; or (b) in a Class 2, 3, 5 or 9 building, the space below is not a storey, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or (c) it is a timber stage floor in a Class 9b building laid over a floor having the required FRL and the space below the stage is not used as a dressing room, store room, or the like; or (d) it is within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Floor in laid on ground does not require an FRL.

	(e) it is an open-access floor (for the accommodation of electrical and electronic services and the like) above a floor with the required FRL.	
S5C13	**Floor loading of Class 5 and 9b buildings: Concession**	
CRA	If a floor in a Class 5 or 9b building is designed for a live load not exceeding 3 kPa— (a) the floor next above (including floor beams) may have an FRL of 90/90/90; or (b) the roof, if that is next above (including roof beams), may have an FRL of 90/60/30.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S5C14	**Roof superimposed on concrete slab: Concession**	
CRA	A roof superimposed on a concrete slab roof need not comply with S5C11 as to fire-resisting construction if— (a) the superimposed roof and any construction between it and the concrete slab roof are non-combustible throughout; and (b) the concrete slab roof complies with Table S5C11g.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S5C19	**Carparks**	
CRA	(1) Notwithstanding S5C11, a carpark may comply with this clause if it is an open-deck carpark or is protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 and is— (a) a separate building; or (b) a part of a building— (i) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or (ii) which is located above or below another classification, and the floor separating the classifications complies with C3D10; or (iii) which is located above another Class 7 part of the building not used for carparking, and the floor separating the parts complies with Table S5C11g for a Class 7 part other than a carpark; or (iv) which is located below another Class 7 part of the building not used for carparking, and the floor separating the parts complies with this clause. (2) For the purposes of this clause, a carpark— (a) includes— (i) an administration area associated with the functioning of the carpark; and (ii) where the carpark is sprinklered, is associated with a Class 2 or 3 building and provides carparking for separate sole-occupancy units, each carparking area with an area not greater than 10% of its floor area for purposes ancillary to the sole-occupancy units; but	Compliance required – Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(b) excludes—
(i) except for (a), any area of another classification, or other part of a Class 7 building not used for carparking; and
(ii) a building or part of a building specifically intended for the parking of trucks, buses, vans and the like.
(3) For building elements in a carpark as described in (1) and (2), the following minimum FRLs are applicable:
(a) External wall:
(i) Less than 3 m from a fire-source feature to which it is exposed:
(A) Loadbearing: 60/60/60.
(B) Non-loadbearing: –/60/60.
(ii) 3 m or more from a fire-source feature to which it is exposed: –/–/–.
(b) Internal wall:
(i) Loadbearing, other than one supporting only the roof (not used for carparking): 60/–/–.
(ii) Supporting only the roof (not used for carparking): –/–/–.
(iii) Non-loadbearing: –/–/–.
(c) Fire wall:
(i) From the direction used as a carpark: 60/60/60.
(ii) From the direction not used as a carpark: as required by Table S5C11d.
(d) Columns:
(i) Supporting only the roof (not used for carparking) and 3 m or more from a fire-source feature to which it is exposed: –/–/–.
(ii) Steel column, other than one covered by (i) and one that does not support a part of a building that is not used as a carpark—
(A) 60/–/–; or
(B) an ESA/M of not greater than 26m2 /tonne.
(iii) Any other column not covered by (i) or (ii): 60/–/–.
(e) Beams:
(i) Steel floor beam in continuous contact with a concrete floor slab—
(A) 60/–/–; or
(B) an ESA/M of not greater than 30m2 /tonne.
(ii) Any other beam: 60/–/–.

(f) Fire-resisting lift and stair shaft (within the carpark only): 60/60/60.
(g) Floor slab and vehicle ramp: 60/60/60.
(h) Roof (not used for carparking): –/–/–.
(4) For the purposes of sub-clause (3):
(a) ESA/M means the ratio of exposed surface area to mass per unit length.
(b) Refer to Specification 17 for special requirements for a sprinkler system in a carpark complying with (3) and located within a multi-classified building.

Specification 6 – Structural Test for Lightweight Construction		
Clause	**Reference**	**Comment**
S6C4	**Walls of shafts and fire-isolated exits generally**	
CRA	A wall of lightweight construction that is required to be fire-resisting and which bounds a lift shaft, stair shaft, or service shaft, fire-isolated passageway or fire-isolated ramp must be subjected to the following tests and must fulfil the following criteria: (a) The materials tests of S6C10(a) and the criteria of S6C11(a). (b) A static test by the imposition of a uniformly distributed load of 0.35 kPa (or its equivalent) in accordance with S6C10(b) and the damage and deflection criteria of S6C11(b) and (c) respectively. (c) A dynamic test by the fall of the impact bag through a height of 150 mm in accordance with S6C10(c) and the damage and deflection criteria of S6C11(b) and (d) respectively. (d) The surface indentation test of S6C10(d) and the surface indentation criterion of S6C11(e).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S6C5	**Additional requirements for lift shafts**	
CRA	(1) In addition to the requirements of S6C3 and S6C4, a wall system for use in a lift shaft that is required to be fire resisting must be subjected to dynamic test by the imposition of— (a) where the lift car speed is 7 m/s or less — 10^6 cycles of a uniformly distributed load between 0 and 0.2 kPa (or its equivalent); or (b) where the lift car speed is greater than 7 m/s — 10^6 cycles of a uniformly distributed load between 0 and 0.35 kPa (or its equivalent) in accordance with S6C10(e) and must fulfil the damage criteria of S6C11(b). (2) The wall system must be subjected to the static test in accordance with S6C4(b) after the successful conclusion of the dynamic test specified in (1).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S6C6	**Walls generally**	
CRA	An external and internal wall of lightweight construction that is required to be fire-resisting, other than one covered by S6C3, S6C4 or S6C5, must be subjected to the following tests and must fulfil the following criteria: (a) The materials tests of S6C10(a) and the criteria of S6C11(a). (b) A static test by the imposition of a uniformly distributed load of 0.25 kPa (or its equivalent) in accordance with S6C10(b) and the damage and deflection criteria of S6C11(b) and (c) respectively. (c) A dynamic test by fall of the impact bag through a height of 100 mm in accordance with S6C10(c) and the damage and deflection criteria of S6C11(b) and (d) respectively. (d) The surface indentation test of S6C10(d) and the surface indentation criterion of S6C11(e).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S6C7	**General requirements for testing**	
CRA	Testing must be carried out on either— (a) construction in-situ; or (b) a laboratory specimen of the construction.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S6C8	**Testing in-situ**	
CRA	If testing is carried out in-situ, it must be done on that part of the construction least likely, because of the particular combination of the height of the walls, the support conditions and other aspects of the construction, to resist the loads	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S6C9	**Testing of specimens**	
CRA	If a laboratory specimen is tested, the specimen must span only in the direction corresponding to the height of the wall and testing must be done in accordance with either (a) or (b) of Clause S6C9 of the BCA.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S6C10	**Test methods**	
CRA	Tests must be carried out in accordance with Clause S6C10 of the BCA	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S6C11	Criteria for compliance	
CRA	The wall system or the specimen of it must fulfil the criteria listed in Clause S6C11 of the BCA	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 7 – Fire Hazard Properties		
Clause	**Reference**	**Comment**
S7C3	Floor linings and floor coverings	
CRA	A floor lining or floor covering must have— (a) a critical radiant flux not less than that listed in Table S7C3; and (b) in a building not protected by a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, a maximum smoke development rate of 750 percent-minutes; and (c) a group number complying with S7C6(b), for any portion of the floor covering that is continued more than 150 mm up a wall.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S7C4	Wall and ceiling linings	
CRA	(1) A wall or ceiling lining system must comply with the group number specified in Table S7C4 and for buildings not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 have— (a) a smoke growth rate index not more than 100; or an average specific extinction area less than 250 m2 (b) /kg. (2) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS 5637.1.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S7C5	Air-handling ductwork	
CRA	Rigid and flexible ductwork in a Class 2 to 9 building must comply with the fire hazard properties set out in AS 4254.1 and AS 4254.2	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S7C6	Lift cars	
CRA	Materials used as— (a) floor linings and floor coverings must have a critical radiant flux not less than 2.2; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with AS5637.1.	
S7C7	**Other materials**	
CRA	Materials and assemblies not included in S7C3, S7C4, S7C5 or S7C6 must not exceed the indices set out in Table S7C7	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 12 – Fire Doors, Smoke Doors, Fire Windows and Shutters		
Clause	**Reference**	**Comment**
S12C2	**Fire Doors**	
CRA	A required fire door must— (a) comply with AS 1905.1; and (b) not fail by radiation through any glazed part during the period specified for integrity in the required FRL.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S12C3	**General requirements for smoke doors**	
CRA	Smoke doors must be constructed so that smoke will not pass from one side of the doorway to the other and, if they are glazed, there is minimal danger of a person being injured by accidentally walking into them.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S12C4	**Construction Deemed-to-Satisfy**	
CRA	A smoke door of one or two leaves satisfies S12C3 if it is constructed as follows: (a) The leaves are side-hung to swing— (i) in the direction of egress; or (ii) in both directions. (b) The leaves are solid-core and at least 35 mm thick, or are capable of resisting smoke at 200°C for 30 minutes. (c) The leaves are fitted with smoke seals. (d) The leaves— (i) are normally in the closed position; or (ii) operate such that—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(A) they are closed automatically with the automatic closing operation initiated by smoke detectors, installed in accordance with the relevant provisions of AS 1670.1, located on each side of the doorway not more than 1.5 m horizontal distance from the doorway; and (B) in the event of power failure to the door, they will fail-safe in the closed position. (e) The leaves return to the fully closed position after each manual opening. (f) Any glazing incorporated in the door complies with AS 1288. (g) If a glazed panel is capable of being mistaken for an unobstructed exit, the presence of the glass must be identified by an opaque mid-height band, mid-rail, crash-bar or other opaque construction.	
Specification 13 – Penetration of Walls, Floors and Ceiling by Services		
Clause	**Reference**	**Comment**
S13C3	**Metal pipe system**	
CRA	(1) A pipe system comprised entirely of metal (excluding pipe seals or the like) that is not normally filled with liquid must not be located within 100 mm, for a distance of 2 m from the penetration, of any combustible building element or a position where combustible material may be located, and must be constructed of— (a) copper alloy or stainless steel with a wall thickness of at least 1 mm; or (b) cast iron or steel (other than stainless steel) with a wall thickness of at least 2 mm. (2) An opening for a pipe system comprised entirely of metal (excluding pipe seals or the like) must— (a) be neatly formed, cut or drilled; and (b) be no closer than 200 mm to any other service penetration; and (c) accommodate only one pipe. (3) A pipe system comprised entirely of metal (excluding pipe seals or the like) must be wrapped but must not be lagged or enclosed in thermal insulation over the length of its penetration of a wall, floor or ceiling unless the lagging or thermal insulation fulfils the requirements of S13C7. (4) The gap between a metal pipe and the wall, floor or ceiling it penetrates must be fire-stopped in accordance with S13C7.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S13C4	**Pipes penetrating sanitary compartments**	
CRA	If a pipe of metal or UPVC penetrates the floor of a sanitary compartment in accordance with C4D15(2)(c)(ii)— (a) the opening must be neatly formed and no larger than is necessary to accommodate the pipe or fitting; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

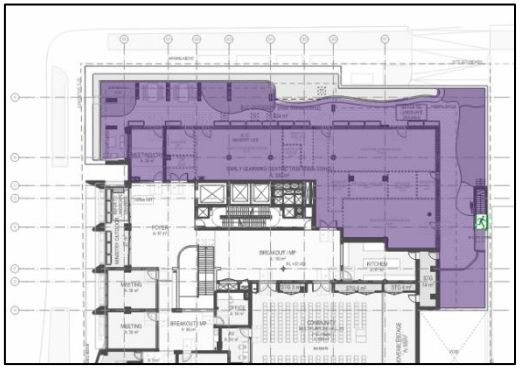
	(b) the gap between pipe and floor must be fire-stopped in accordance with S13C7.	
S13C5	**Wires and cables**	
CRA	If a wire or cable or cluster of wires or cables penetrates a floor, wall or ceiling— (a) the opening must be neatly formed, cut or drilled and no closer than 50 mm to any other service; and (b) the opening must be no larger in cross-sectional area than— (i) 2000 mm2 if only a single cable is accommodated and the gap between cable and wall, floor or ceiling is no wider than 15 mm; or (ii) 500 mm2 in any other case; and (c) the gap between the service and the wall, floor or ceiling must be fire-stopped in accordance with S13C7.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S13C6	**Electrical switches and outlets**	
CRA	If an electrical switch, outlet, socket or the like is accommodated in an opening or recess in a wall, floor or ceiling— (a) the opening or recess must not— (i) be located opposite any point within 300 mm horizontally or 600 mm vertically of any opening or recess on the opposite side of the wall; or (ii) extend beyond half the thickness of the wall; and (b) the gap between the service and the wall, floor or ceiling must be fire-stopped in accordance with S13C7.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S13C7	**Fire-stopping**	
CRA	(1) Material: The material used for the fire-stopping of service penetrations must be concrete, high-temperature mineral fibre, high-temperature ceramic fibre or other material that does not flow at a temperature below 1120°C when tested in accordance with ISO 540, and must have— (a) demonstrated in a system tested in accordance with C4D15(2)(a) that it does not impair the fire-resisting performance of the building element in which it is installed; or (b) demonstrated in a test in accordance with (5) that it does not impair the fire-resisting performance of the test slab. (2) Installation: Fire-stopping material must be packed into the gap between the service and wall, floor or ceiling in a manner, and compressed to the same degree, as adopted for testing under (1)(a) or (b).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(3) Hollow construction: If a pipe penetrates a hollow wall (such as a stud wall, a cavity wall or a wall of hollow blockwork) or a hollow floor/ceiling system, the cavity must be so framed and packed with fire-stopping material that is—
(a) installed in accordance with (2) to a thickness of 25 mm all round the service for the full length of the penetration; and
(b) restrained, independently of the service, from moving or parting from the surfaces of the service and of the wall, floor or ceiling.
(4) Recesses: If an electrical switch, socket, outlet or the like is accommodated in a recess in a hollow wall or hollow floor/ceiling system—
(a) the cavity immediately behind the service must be framed and packed with fire-stopping material in accordance with (3); or
(b) the back and sides of the service must be protected with refractory lining board identical with and to the same thickness as that in which the service is installed.
(5) Test: The test to demonstrate compliance of a fire-stopping material with this Specification must be conducted as follows:
(a) The test specimen must comprise a concrete slab not less than 1 m square and not more than 100 mm thick, and appropriately reinforced if necessary for structural adequacy during manufacture, transport and testing.
(b) The slab must have a hole 50 mm in diameter through the centre and the hole must be packed with the fire-stopping material.
(c) The slab must be conditioned in accordance with AS 1530.4.
(d) Two thermocouples complying with AS 1530.4 must be attached to the upper surface of the packing each about 5 mm from its centre.
(e) The slab must be tested on flat generally in accordance with Section 10 of AS 1530.4 and must achieve an FRL of 60/60/60 or as otherwise required.

Section D: Access and Egress		
Part D2 – Provision for Escape		
Clause	Reference	Comment
NSW D2D3	**Number of exits required**	
PSOL	(1) All buildings — Every building must have at least one exit from each storey. (2) Class 2 to 8 buildings —	Performance Solution is necessary to achieve compliance with this clause.

(a) In addition to any horizontal exit, not less than 2 exits must be provided from the following:
(i) Each storey if the building has an effective height of more than 25 m.
(ii) A Class 2 or 3 building subject to C2D6.
(b) The requirements of (a)(i) do not apply to a part of a storey that—
(i) is provided with direct egress to a road or open space; and
(ii) satisfies D2D5 by the provision of 1 exit.
(3) Basements — In addition to any horizontal exit, not less than 2 exits must be provided from any storey if egress from that storey involves a vertical rise within the building of more than 1.5 m, unless—
(a) the floor area of the storey is not more than 50 m²; and
(b) the distance of travel from any point on the floor to a single exit is not more than 20 m.
(4) Class 9 buildings—
(a) In addition to any horizontal exit, not less than 2 exits must be provided from the following:
(i) Each storey if the building has a rise in storeys of more than 6 or an effective height of more than 25 m.
(ii) Any storey which includes a patient care area in a Class 9a health-care building.
(iii) Any storey that contains sleeping areas in a Class 9c building.
(iv) Any storey used as a Class 9b early childhood centre, or any Class 9b early childhood centre which forms part of a storey.
(v) Each storey in a primary or secondary school with a rise in storeys of 2 or more.
(vi) Any storey or mezzanine that accommodates more than 50 persons, calculated under D2D18.
(vii) Any storey or mezzanine within an auditorium in an entertainment venue.
(b) The requirements of (a) do not apply to a part of a storey that—
(i) is a plant room, machinery room, storeroom, lift-machine room or the like; and
(ii) is provided with direct egress to a road, open space or a fire-isolated exit complying with D2D12(2); and
(iii) satisfies D2D5 by the provision of 1 exit.
(5) Exits from Class 9c buildings and patient care areas in Class 9a health-care buildings — In a Class 9a health-care building and a Class 9c building, at least one exit must be provided from every part of a storey which has been divided into fire compartments in accordance with C3D3 or C3D6.
(6) Exits in open spectator stands — In an open spectator stand containing more than one tier of seating, every tier must have not less than 2 stairways or ramps, each forming part of the path of travel to not less than 2 exits.

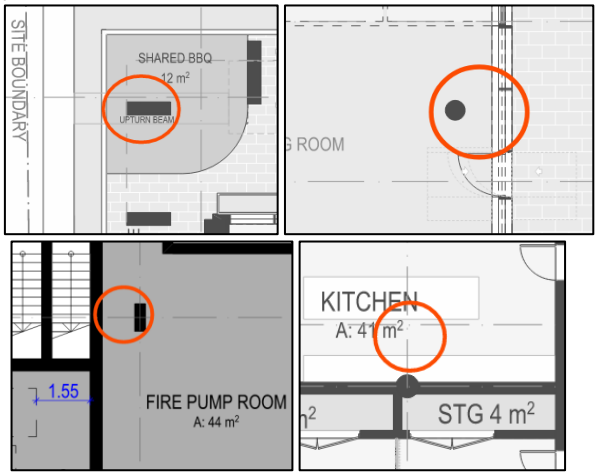
- The proposed building has an effective height of more than 25m and provided with at least two (2) exits for each storey, capable to comply with this clause.
- Class 9b childcare part which forms part of a storey is provided with one (1) exit in lieu of two (2), due to the second exit being outside this class/part, in non-compliance with this clause. **To be rectified. Alternatively, Fire Engineer to assess and advise if a Performance Solution is feasible.**



	(7) Access to exits — Without passing through another sole-occupancy unit every occupant of a storey or part of a storey must have access to— (a) an exit; or (b) at least 2 exits if 2 or more exits are required.	
D2D4	**When fire-isolated stairways and ramps are required**	
CRA	(1) Class 2 and 3 buildings — The following applies: (a) Subject to (b), every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than— (i) 3 consecutive storeys in a Class 2 building; or (ii) 2 consecutive storeys in a Class 3 building. (b) Notwithstanding (a), one extra storey of any classification may be included if— (i) it is only for the accommodation of motor vehicles or for other ancillary purposes; or (ii) the building has a sprinkler system (other than a FPAA101D system) complying with Specification 17 installed throughout; or (iii) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (A) an FRL of –/60/60, if non-loadbearing; and (B) an FRL of 90/90/90, if loadbearing; and (C) no opening that could permit the passage of fire or smoke. (2) Class 5, 6, 7 or 9 buildings — Every stairway or ramp serving as a required exit must be fire-isolated unless— (a) in a Class 9a health-care building — it connects, or passes through or passes by not more than 2 consecutive storeys in areas other than patient care areas; or (b) it is part of an open spectator stand; or (c) in any other case, except in a Class 9b early childhood centre or a Class 9c building, it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if— (i) the building has a sprinkler system (other than a FPAA101D system) complying with Specification 17 installed throughout; or (ii) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (A) an FRL of –/60/60, if non-loadbearing; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is required to have exits provided with fire-isolated stairs. Colour coded FRL drawings to be provided for review prior to construction.

	(B) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B or C construction, if loadbearing; and (C) no opening that could permit the passage of fire or smoke. Exemptions: D2D4(2) does not apply to— (a) a Class 9b early childhood centre wholly within a storey that provides direct egress to a road or open space; or (b) a Class 9b early childhood centre with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in that building.	
D2D5	**Exit travel distances**	
PSOL	(1) Class 2 and 3 buildings — (a) The entrance doorway of any sole-occupancy unit must be not more than— (i) 6 m from an exit or from a point from which travel in different directions to 2 exits is available; or (ii) 20 m from a single exit serving the storey at the level of egress to a road or open space; and (b) no point on the floor of a room which is not in a sole-occupancy unit must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available. (2) Class 4 parts of a building — The entrance doorway to any Class 4 part of a building must be not more than 6 m from an exit or a point from which travel in different directions to 2 exits is available. (3) Class 5, 6, 7, 8 or 9 buildings — Subject to (4), (5) and (6)— (a) no point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m; and (b) 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 30 m. (4) Class 9a buildings — In a patient care area in a Class 9a building— (a) no point on the floor must be more than 12 m from a point from which travel in different directions to 2 of the required exits is available; and (b) the maximum distance to one of those exits must not be more than 30 m from the starting point. (5) Open spectator stands — The distance of travel to an exit in a Class 9b building used as an open spectator stand must be not more than 60 m. (6) Assembly buildings — In a Class 9b building other than a school or early childhood centre, the distance to one of the exits may be 60 m if—	Performance Solution is necessary to achieve compliance with this clause. Excessive travel distances to an exit and a point of choice are identified in various locations, in non-compliance with this clause. **To be rectified. Alternatively, Fire Engineer to assess and advise if a Performance Solution is feasible.** Note: Refer to Addendum E at the back of this Report for travel distance markup.

	(a) the path of travel from the room concerned to that exit is through another area which is a corridor, hallway, lobby, ramp or other circulation space; and (b) the room is smoke-separated from the circulation space by construction having an FRL of not less than 60/60/60 with every doorway in that construction protected by a tight fitting, self-closing, solid-core door not less than 35 mm thick; and (c) the maximum distance of travel does not exceed 40 m within the room and 20 m from the doorway to the room through the circulation space to the exit.	
D2D6	**Distance between alternative exits**	
PSOL	Exits that are required as alternative means of egress must be— (a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and (b) not less than 9 m apart; and (c) not more than— (i) in a Class 2 or 3 building — 45 m apart; or (ii) in a Class 9a health-care building, if such required exit serves a patient care area — 45 m apart; or (iii) in all other cases — 60 m apart; and (d) located so that alternative paths of travel do not converge such that they become less than 6 m apart.	Performance Solution is necessary to achieve compliance with this clause. Excessive travel distances of 80m in lieu of 60m between exits in ground floor, in non-compliance with this clause. **To be rectified. Alternatively, Fire Engineer to assess and advise if a Performance Solution is feasible.** Note: Refer to Addendum E at the back of this Report for travel distance markup.
D2D7	**Height of doorways in exits and paths of travel to exits**	
CRA	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	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
NSW D2D8	**Width of exits and paths of travel to exits**	
PSOL	(1) 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— (a) 1 m; or (b) 1.8 m in a passageway, corridor or ramp normally used for the transportation of patients in beds within a treatment area or ward area; and (c) in a public corridor in a Class 9c aged care building, notwithstanding (2) and (3)—	Performance Solution is necessary to achieve compliance with this clause. Most of the corridors are provided with 1m clear width in compliance with this clause. Care is to be taken with areas in Level 1 that are insufficient, in non-compliance with this clause. **To be rectified.**

	(i) 1.5 m; and (ii) 1.8 m for the full width of the doorway, providing access into a sole-occupancy unit or communal bathroom. (2) 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— (a) 1 m plus 250 mm for each 25 persons (or part) in excess of 100; or (b) 1.8 m in a passageway, corridor or ramp normally used for the transportation of patients in beds within a treatment area or ward area. (3) 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— (a) 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 (b) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200. (4) In an open spectator stand which accommodates more than 2000 persons, the aggregate unobstructed width of each required exit or path of travel to an exit, except for doorways, must be not less than 17 m plus a width (in metres) equal to the number in excess of 2000 divided by 600. (5) In a Class 9b building used as an entertainment venue— (a) the aggregate width must be not less than 2 m plus 500 mm for every 50 persons or part in excess of 200; and (b) D2D8(1), (2) and (3) do not apply; and (c) where one or more paths of travel merge, the width of the combined path of travel must be not less than the sum of the required widths of those paths of travel; and (d) the required widths of those paths of travel connecting the exits from the building to a public road or open space must comply with (c)	**Alternatively, Fire Engineer to assess and advise if a Performance Solution is feasible.** Note: It is expected that these narrow paths would be blocked by future fit out arrangements where possible.  - The following unobstructed aggregated egress width have been calculated as follow and considered sufficient. • Ground Floor: 7m (circa 700 persons), • Mezzanine floor: 2m (circa 200 persons) • Level 1: 6m (circa 600 persons) • Levels 2-18: 2m (200 persons each)
NSW D2D9	**Width of doorways in exits or paths of travel to exits**	
OK	In a required exit or path of travel to an exit, the unobstructed width of a doorway must be not less than— (a) in patient care areas through which patients would normally be transported in beds— (i) if the doorway provides access to, or from, a corridor of width—	The proposed building design complies with the DTS provisions of this clause. Exit doorways are provided with 750mm minimum clear opening, in compliance with this clause.

	(A) less than 2.2 m — 1200 mm; or (B) 2.2 m or greater — 1070 mm; and (ii) where the doorway referred to in (i) is fitted with two leaves and one leaf is secured in the closed position in accordance with D3D26(3)(e), the other leaf must permit an unobstructed opening not less than 800 mm wide; or (b) in patient care areas in a horizontal exit — 1250 mm; or (c) the unobstructed width of each exit provided to comply with D2D8(1), (2), (3) or (4), minus 250 mm; or (d) in a Class 9c building, 800 mm, except— (i) in resident use areas the minimum unobstructed width must be 870 mm; and (ii) for doorways leading from a public corridor to a sole-occupancy unit the minimum unobstructed width must be 1070 mm; and (iii) where the doorway is fitted with two leaves and one leaf is secured in the closed position in accordance with D3D26(3)(e), the other leaf must permit an unobstructed opening not less than 870 mm wide in resident use areas and 800 mm wide in non-resident use area; or (e) in a Class 9b building used as an entertainment venue— (i) in parts of the building used by the public, the width of the required exit or path of travel, and the unobstructed width of each doorway must not be less than 1 m and not more than 3 m; and (ii) in other parts of the building, doorways must comply with NSW D2D9; or (f) in any other case except where it opens to a sanitary compartment or bathroom — 750 mm wide.	
D2D10	**Exit width not to diminish in direction of travel**	
CRA	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).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
D2D11	**Determination and measurement of exits and paths of travel to exits**	
Noted	For the purposes of D2D7 to D2D10 the following apply: (a) The required width of a stairway or ramp in a required exit or path of travel to an exit must— (i) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and (ii) 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.	This clause is for informational purposes only, and no additional action is required.

	(b) To determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D2D18.	
D2D12	**Travel via fire-isolated exits**	
CRA	(1) 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) a public corridor, public lobby or the like; or (b) a sole-occupancy unit occupying all of a storey; or (c) a sanitary compartment, airlock or the like. (2) Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway— (a) to a road or open space; or (b) to a point— (i) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least ⅔ of its perimeter; and (ii) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or (c) into a covered area that— (i) adjoins a road or open space; and (ii) is open for at least ⅓ of its perimeter; and (iii) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (iv) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. (3) 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, measured horizontally at right angles to the path of travel, the following applies: (a) That part of the wall must have— (i) an FRL of not less than 60/60/60; and (ii) any openings protected internally in accordance with C4D5; and (b) The protection required by (a) must extend for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Fire isolated stairs discharging on the north facades discharge onto a covered area with at least 1/3 perimeter open, 3m min height, and 20m to a road, in compliance with this clause.

	(4) If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit in the same storey— (a) a smoke lobby in accordance with D3D7 must be provided; or (b) the exit must be pressurised in accordance with AS 1668.1. (5) A ramp must be provided at any change in level less than 600 mm in a fire-isolated passageway in a Class 9 building	
D2D14	**Travel by non-fire-isolated stairways or ramps**	
CRA	(1) A non-fire-isolated stairway or non-fire-isolated ramp serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. (2) In a Class 2, 3 or 4 building, the distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by way of a stairway or ramp that is not fire-isolated and is required to serve that room or sole-occupancy unit must not exceed— (a) 30 m in a building of Type C construction; or (b) 60 m in all other cases. (3) In a Class 5, 6, 7, 8 or 9 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m. (4) In a Class 2, 3 or 9a building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than— (a) 15 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or (b) 30 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions. (5) In a Class 5 to 8 or 9b building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than— (a) 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or (b) 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions. (6) In a Class 2 or 3 building, if 2 or more exits are required and are provided by means of internal non-fire-isolated stairways or non-fire-isolated ramps each exit must—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The distance from any point on a floor by way of non-fire-isolated stair does not exceed 80m, in compliance with this clause. Refer to travel distances markup in Addendum E at the back of this report.

	(a) provide separate egress to a road or open space; and (b) be suitably smoke-separated from each other at the level of discharge.	
D2D15 & NSW D2D15	**Discharge from exits**	
CRA	(1) An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. (2) If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than— (a) the minimum width of the required exit; or (b) 1 m, whichever is the greater. (3) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by— (a) a ramp or other incline having a gradient not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D4; or (b) except if the exit is from a Class 9a building, a stairway complying with the Deemed-to-Satisfy Provisions of the BCA. (4) The discharge point of alternative exits must be located as far apart as practical. (5) In a Class 9b building which is an open spectator stand that accommodates more than 500 persons, a required stairway or required ramp must not discharge to the ground in front of the stand. (6) In a Class 9b building used as an entertainment venue, at least half of the required number of exits from each storey or mezzanine, and at least half of the aggregate width of such exits must discharge otherwise than through the main entrance, or the area immediately adjacent to the main entrance to the building. (7) The number of persons accommodated must be calculated according to D2D18.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. From the information provided it is understood that the exits will not be blocked (i.e. locked gates, bollards, etc).
D2D16	**Horizontal exits**	
PSOL	(1) Horizontal exits must not be counted as required exits— (a) between sole-occupancy units; or (b) in a Class 9b building used as an early childhood centre, primary or secondary school. (2) In a Class 9a health-care building or Class 9c building, horizontal exits may be counted as required exits if the path of travel from a fire compartment leads by one or more horizontal exits	Performance Solution is necessary to achieve compliance with this clause. Proposed childcare is not provided with 2 fire compartments, and subsequently no horizontal exits (2 per fire compartment and 9m apart minimum) is possible, in non-compliance with this clause. To be

	directly into another fire compartment which has at least one required exit which is not a horizontal exit. (3) In cases other than in (2), horizontal exits must not comprise more than half of the required exits from any part of a storey divided by a fire wall. (4) Horizontal exits must have a clear area on the side of the wall to which occupants are evacuating, to accommodate the total number of persons (calculated under D2D18) served by the horizontal exit of not less than— (a) 2.5 m2 per patient/resident in a Class 9a health-care building or Class 9c aged care building; and (b) 0.5 m2 per person in any other case. (5) Where a fire compartment is provided with only two exits, and one of those exits is a horizontal exit, the clear area required by (4) is to be of a size that accommodates all the occupants from the fire compartment being evacuated. (6) In a Class 9b early childhood centre, the clear area required by (4) must accommodate all occupants of the early childhood centre. (7) The clear area required by (4) must be connected to the horizontal exit by an unobstructed path that has at least the dimensions required for the horizontal exit and may include the area of the unobstructed path. (8) Each fire compartment required by C3D6(2) must be served by not less than 2 horizontal exits, each located not less than 9 m from— (a) at least one other horizontal exit; and (b) an exit other than a horizontal exit.	rectified alternatively, Fire Engineer to assess and advise, if a Performance Solution is feasible.
D2D18	**Number of persons accommodated**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions, the number of persons accommodated in a storey, room or mezzanine must be determined with consideration to the purpose for which it is used and the layout of the floor area by— (a) calculating the sum of the numbers obtained by dividing the floor area of each part of the storey by the number of square metres per person listed in Table D2D18 according to the use of that part, excluding spaces set aside for— (i) lifts, stairways, ramps and escalators, corridors, hallways, lobbies and the like; and (ii) service ducts and the like, sanitary compartments or other ancillary uses; or (b) reference to the seating capacity in an assembly building or room; or	Compliance required – Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Occupancy numbers will be calculated by a more accurate mean (i.e. fit out and available seating).

	(c) any other suitable means of assessing its capacity.	
D2D19	**Measurement of distances**	
Noted	The nearest part of an exit means in the case of— (a) a fire-isolated stairway, fire-isolated passageway, or fire-isolated ramp, the nearest part of the doorway providing access to them; and (b) a non-fire-isolated stairway, the nearest part of the nearest riser; and (c) a non-fire-isolated ramp, the nearest part of the junction of the floor of the ramp and the floor of the storey; and (d) a doorway opening to a road or open space, the nearest part of the doorway; and (e) a horizontal exit, the nearest part of the doorway.	This clause is for informational purposes only, and no additional action is required.
D2D20	**Method of measurement**	
Noted	The clause of the BCA outlines the methods of measurement utilised in the provisions of this report.	This clause is for informational purposes only, and no additional action is required.
D2D21	**Plant rooms, lift machine rooms and electricity network substations; concession**	
CRA	(1) 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 100 m2 (a) ; or (b) all but one point of egress from a plant room, a lift machine room or a Class 8 electricity network substation with a floor area of not more than 200 m2. (2) A ladder permitted under (1)— (a) may— (i) form part of an exit provided that in the case of a fire-isolated stairway it is contained within the shaft; or (ii) discharge within a storey in which case it must be considered as forming part of the path of travel; and (b) for a plant room or a Class 8 electricity network substation, must comply with AS 1657; and (c) for a lift machine room, where access is provided from within a machine room to a secondary floor, a fixed rung type ladder complying with AS 1657 may be used, provided that— (i) the height between the floors is not more than 2800 mm; and (ii) the ladder is inclined at an angle to the horizontal not less than 65 degrees nor more than 75 degrees; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary

	(iii) the distance between the front face of the ladder and any adjacent obstruction is not less than— (A) 960 mm, where the ladder is inclined 65 degrees to the horizontal; or (B) 760 mm, where the ladder is inclined 75 degrees to the horizontal; or (C) a distance that is determined by interpolating the values in (A) and (B), where the ladder is inclined at any angle between 65 degrees and 75 degrees to the horizontal; and (iv) a clear space not less than 600 mm exists between the foot of the ladder and any equipment.	
D2D22	**Access to lift pits**	
CRA	Access to lift pits must— (a) where the pit depth is not more than 3 m, be through the lowest landing doors: or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D2D7 to D2D11, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D3D26, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high: DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS – KEEP CLEAR AT ALL TIMES	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part D3 – Construction of Exits		
Clause	**Reference**	**Comment**
D3D3	**Fire-isolated stairways and ramps**	
CRA	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed— (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure fire-isolated stairs do not have combustible elements inside.

D3D4	**Non-fire-isolated stairways and ramps**	
CRA	In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D3D3, or only of— (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and has an average density of not less than 800 kg/m3 (ii) at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. It is understood that all stairs will be in reinforced concrete or 6mm min. thick metal, in compliance with this clause.
D3D5	**Separation of rising and descending stair flights**	
OK	If a stairway serving as an exit is required to be fire-isolated— (a) there must be no direct connection between— (i) a flight rising from a storey below the lowest level of access to a road or open space; and (ii) a flight descending from a storey above that level; and (b) any construction that separates or is common to the rising and descending flights must be— (i) non-combustible; and (ii) smoke proof in accordance with S11C2.	The proposed building design complies with the DTS provisions of this clause. Fire-isolated stair discharge separately on ground level.
D3D8	**Installations in exits and paths of travel**	
CRA	(1) Access to service shafts and services other than to fire-fighting or detection equipment as permitted in the Deemed-to-Satisfy Provisions of Section E, must not be provided from a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp. (2) An opening to any chute or duct intended to convey hot products of combustion from a boiler, incinerator, fireplace or the like, must not be located in any part of a required exit or any corridor, hallway, lobby or the like leading to a required exit. (3) Gas or other fuel services must not be installed in a required exit. (4) Except for in a fire-isolated exit specified in (1), services or equipment enclosed in accordance with (5) may be installed in a required exit, or in any corridor, hallway, lobby or the like leading to a required exit, where that service or equipment comprises— (a) electricity meters, distribution boards or ducts; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure services along the egress paths (i. e. residential and commercial corridors, etc) are enclosed in non-combustible construction and smoke sealed.

	(b) central telecommunications distribution boards or equipment; or (c) electrical motors or other motors serving equipment in the building. (5) An enclosure for the purposes of (4) must be suitably sealed against smoke spreading from the enclosure and be— (a) non-combustible construction; or (b) a fire-protective covering. (6) Electrical wiring may be installed in a fire-isolated exit if the wiring is associated with— (a) a lighting, detection, or pressurisation system serving the exit; or (b) a security, surveillance or management system serving the exit; or (c) an intercommunication system or an audible or visual alarm system in accordance with D3D27; or (d) the monitoring of hydrant or sprinkler isolating valves.	
D3D9	**Enclosure of space under stairs and ramps**	
CRA	(1) Fire-isolated stairways and ramps — If the space below a required fire-isolated stairway or fire-isolated ramp is within the fire-isolated shaft, it must not be enclosed to form a cupboard or similar enclosed space. (2) Non fire-isolated stairways and ramps — The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless— (a) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and (b) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Enclosures underneath non-fire-isolated stair are to be provided with 1hr FRL and self-closing fire doors. Colour Corded FRL drawings to be provided for review prior to construction.
D3D12	**Fire-isolated passageways**	
CRA	(1) 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— (a) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or (b) in any other case — not less than 60/60/60. (2) Notwithstanding (1)(b), 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) a non-combustible roof covering; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Fire isolated passages will have the same FRL required of the stairs they serve.

	(b) 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.	
D3D13	**Roof as open space**	
N/A	If an exit discharges to a roof of a building, the roof must— (a) have an FRL of not less than 120/120/120; and (b) not have any roof lights or other openings within 3 m of the path of travel of persons using the exit to reach a road or open space.	Not applicable – This clause is not applicable to this project. No action required.
D3D14 & NSW D3D14	**Goings and risers**	
CRA	(1) A stairway must have— (a) not more than 18 and not less than 2 risers in each flight; and (b) going (G), riser (R) and quantity (2R + G) in accordance with Table D3D14, except as permitted by (2) and (3); and (c) constant goings and risers throughout each flight, except as permitted by (2) and (3), and the dimensions of goings (G) and risers (R) in accordance with (1)(b) are considered constant if the variation between— (i) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm; and (d) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (e) treads which have— (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586; or (ii) a nosing strip with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586; and (f) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 storeys; and (g) in a Class 9b building, not more than 36 risers in consecutive flights without a change in direction of at least 30°; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Stairs are to be in accordance with the geometry and tolerance restriction of this clause. Suitable slip resistance nosing strips are to be provided: • Internal areas: P3 (dry) min. • External areas: P4 (wet) min.

	(h) in the case of a required stairway, no winders in lieu of a landing; and (i) conspicuous edges to the treads of steps in a Class 9b building used as an entertainment venue; and (j) in a Class 9b building used as an entertainment venue, not more than one helical stairway serving as a required exit and that stairway must— (i) have a width of not less than 1500 mm; and (ii) be of constant radius; and (iii) be constructed so that each tread, when measured 500 mm in from its narrow end, has a width of at least 280 mm; and (k) in a Class 9b building used as an entertainment venue, in a curved stairway serving as a required exit — an internal radius of not less than twice the width of the stair. (2) In the case of a non-required stairway— (a) the stairway must have— (i) not more than 3 winders in lieu of a quarter landing; and (ii) not more than 6 winders in lieu of a half landing; and (b) the going of all straight treads must be constant throughout the same flight and the dimensions of goings (G) is considered constant if the variation between— (i) adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest going within a flight, does not exceed 10 mm; and (c) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same flight provided that the going of all such winders is constant. (3) Where a stairway discharges to a sloping public walkway or public road— (a) the riser (R) may be reduced to account for the slope of the walkway or road; and (b) the quantity (2R+G) may vary at that location.	
D3D15	**Landings**	
CRA	In a stairway— (a) landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each flight and each landing must— (i) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (ii) have—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Suitable slip resistance nosing strips are to be provided. - Internal areas: P3 (dry) minimum. - External areas: P4 (wet) minimum

	(A) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS4586; or (B) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586, where the edge leads to a flight below; and (b) in a Class 9a building— (i) the area of any landing must be sufficient to move a stretcher, 2 m long and 600 mm wide, at a gradient not more than the gradient of the stairs, with at least one end of the stretcher on the landing while changing direction between flights; or (ii) the stair must have a change of direction of 180°, and the landing a clear width of not less than 1.6 m and a clear length of not less than 2.7 m.	
D3D16 & NSW D3D16	**Thresholds**	
CRA	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— (a) in patient care areas in a Class 9a health-care building, the door sill is not more than 25 mm above the finished floor level to which the doorway opens; or (b) in resident use areas in a Class 9c building, a ramp is provided with a maximum gradient of 1:8 for a maximum height of 25 mm over the threshold; or (c) in a building required to be accessible by Part D4, the doorway— (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1; or (d) in a Class 9b building used as an entertainment venue, the door sill of a doorway opening to a road, open space, external stair landing or external balcony is not more than 50 mm above the finished floor level to which the doorway opens; or (e) in other cases— (i) the doorway opens to a road or open space, external stair landing or external balcony; and (ii) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - It is understood all internal surfaces will be level with no thresholds, steps or the like. - Balconies and external areas are allowed to have a 190mm maximum water sill. Note: Pursue level surfaces for disability access purposes expected for highly public buildings.

D3D17	**Barriers to prevent falls**	
CRA	(1) A continuous barrier must be provided along the side of— (a) a roof to which general access is provided; and (b) a stairway or ramp; and (c) a floor, corridor, hallway, balcony, deck, veranda, mezzanine, access bridge or the like; and (d) any delineated path of access to a building, if the trafficable surface is 1 m or more above the surface beneath. (2) The requirements of (1) do not apply to— (a) the perimeter of a stage, rigging loft, loading dock or the like; or (b) areas referred to in D3D23; or (c) 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 (d) a barrier provided to an openable window covered by D3D29. (3) A barrier required by (1) must be constructed in accordance with D3D18, D3D19, D3D20 and, if a wire barrier is used, D3D21.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. A continuous barrier is to be provided along where falls are greater than 1000mm (i.e. balconies, stairs), in compliance with this clause.
D3D18 & NSW D3D18	**Height of barriers**	
CRA	(1) The height of a barrier required by D3D17 must be not less than the following: (a) For stairways or ramps with a gradient of 1:20 or steeper — 865 mm. (b) 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. (c) In front of fixed seating on a mezzanine or balcony within an auditorium in a Class 9b building— (i) 1 m; or (ii) 700 mm where the horizontal projection extends not less than 1 m outwards from the top of the barrier; (d) In a Class 9b building used as an entertainment venue, for stairways and ramps and the floor of any access path, balcony, landing or the like— (i) 1 m when provided inside the building; and (ii) 1200 mm when provided externally to the building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. A continuous barrier of 1000mm height minimum is to be provided along where falls are greater than 1000mm (i.e. balconies, stairs), in compliance with this clause.

	(e) For all other locations — 1 m. (2) For a barrier provided under (1) — (a) 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 (b) 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.	
D3D19	**Openings in barriers**	
CRA	(1) Except where allowed by (2), openings in a required barrier must not allow a 125 mm sphere to pass through. (2) In a fire-isolated stairway, fire-isolated ramp or other area used primarily for emergency purposes, openings in a required barrier— (a) must not allow a 300 mm sphere to pass through; or (b) where rails are used— (i) 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 (ii) the opening between rails must not be more than 460 mm. (3) In Class 7 (other than carparks) and Class 8 buildings, openings in a required barrier— (a) must not allow a 300 mm sphere to pass through; or (b) where rails are used— (i) 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 (ii) the opening between the rails must not be more than 460 mm. (4) The requirements of (2) do not apply to external stairways, external ramps, or fire-isolated stairways or fire-isolated ramps serving Class 9b early childhood centres. (5) For a barrier provided under (1), the maximum 125 mm barrier opening for a stairway, such as a non fire-isolated stairway, is measured above the nosing line of the stair treads. (6) Where a required barrier is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Ensure openings on barriers are not greater than 125mm in balustrades. - Ensure openings on barriers are not greater than 300mm in fire-isolated stairs.

	(7) For the purposes of (6), the opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier.	
D3D20	**Barrier climbability**	
CRA	(1) A barrier required by D3D17, located on a floor more than 4 m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing between 150 mm and 760 mm above the floor. (2) The requirements of (1) do not apply to— (a) fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, other than— (i) external stairways; and (ii) external ramps; and (b) Class 7 (other than carparks) and Class 8 buildings	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Avoid any climbable elements i.e. horizontal elements in the balustrades / barriers. Advisory note: Consider providing an enclosure with vertical elements only, in line with AS1926.1 Pool Safety Standard as best practice.
D3D22	**Handrails**	
CRA	(1) Except for handrails referred to in D3D23, and subject to (2), handrails must— (a) be located along at least one side of the ramp or flight; and (b) be located along each side if the total width of the stairway or ramp is 2 m or more; and (c) in a Class 9b building used as a primary school or a building that contains an early childhood centre— (i) have one handrail fixed at a height of not less than 865 mm; and (ii) in addition to (i), have a handrail— (A) fixed at a height between 665 mm and 750 mm in a primary school; and (B) with a cross-sectional dimension not less than 16 mm and not greater than 45 mm as measured in any direction across its centre, fixed at a height between 450 mm and 700 mm in a Class 9b early childhood centre; and (d) in any other case, be fixed at a height of not less than 865 mm; and (e) be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold; and (f) in a required exit serving an area required to be accessible, be designed and constructed to comply with Section 9 of AS 1428.1, except that Clause 9(d) does not apply to a handrail required by (1)(c)(ii).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. At least one (1) continuous handrail will be provided to all stairs, in compliance with this clause. Access Consultant to review against AS1428.1.

	(2) The height required by (1)(c) and (d) is measured above the nosings of stair treads and the floor surface of the ramp, landing or the like. (3) Handrails— (a) in a Class 9a health-care building must be provided along at least one side of every passageway or corridor used by patients, and must be— (i) fixed not less than 50 mm clear of the wall; and (ii) where practicable, continuous for their full length; and (b) in a Class 9c aged care building must be provided along both sides of every passageway or corridor used by residents, and must be— (i) fixed not less than 50 mm clear of the wall; and (ii) where practicable, continuous for their full length. (4) Handrails required to assist people with a disability must be provided in accordance with D4D4. (5) Handrails to a stairway or ramp within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building must— (a) be located along at least one side of the flight or ramp; and (b) be located along the full length of the flight or ramp, except in the case where a handrail is associated with a barrier, the handrail may terminate where the barrier terminates; and (c) have the top surface of the handrail not less than 865 mm vertically above the nosings of the stair treads or the floor surface of the ramp; and (d) have no obstruction on or above them that will tend to break a handhold, except for newel posts, ball type stanchions, or the like. (6) The requirements of (5) do not apply to— (a) handrails referred to in D3D23; or (b) a stairway or ramp providing a change in elevation of less than 1 m; or (c) a landing; or (d) a winder where a newel post is installed to provide a handhold.	
D3D23	**Fixed platforms, walkways, stairways and ladders**	
CRA	A fixed platform, walkway, stairway, ladder and any going and riser, landing, handrail or barrier attached thereto may comply with AS 1657 in lieu of D3D14, D3D15, D3D17, D3D18, D3D19, D3D20, D3D21 and D3D22 if it only serves— (a) machinery rooms, boiler houses, lift-machine rooms, plant-rooms, and the like; or	If proposed, compliance required – Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) non-habitable rooms, such as attics, storerooms and the like that are not used on a frequent or daily basis in the internal parts of a sole-occupancy unit in a Class 2 building or Class 4 part of a building.	
NSW D3D24	**Doorways and doors**	
OK	(1) A doorway in a resident use area of a Class 9c building must not be fitted with— (a) a sliding fire door; or (b) a sliding smoke door; or (c) a revolving door; or (d) a roller shutter door; or (e) a tilt-up door. (2) A doorway serving as a required exit or forming part of a required exit, or a doorway in a patient care area of a Class 9a health-care building— (a) must not be fitted with a revolving door; and (b) must not be fitted with a roller shutter or tilt-up door unless— (i) it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m2 ; and (ii) the doorway is the only required exit from the building or part; and (iii) it is held in the open position while the building or part is lawfully occupied; and (c) must not be fitted with a sliding door unless— (i) it leads directly to a road or open space; and (ii) the door is able to be opened manually under a force of not more than 110 N; and (d) if fitted with a door which is power-operated— (i) 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 (ii) 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 fire or smoke alarm anywhere in the fire compartment served by the door. (e) in a Class 9b building used as an entertainment venue— (i) must not be fitted with a collapsible gate, accordion door, turnstile or rigid barrier; and (ii) if fitted with a door, must be— (A) a swing door which opens in the direction of egress; and (B) doors hung in two folds where the unobstructed width of the doorway is more than 1 m; and	The proposed building design complies with the DTS provision of this clause. All exit doors are shown as hinged or sliding doors, in compliance with this clause.

	(iii) a doorway or opening within sight of the audience but not intended for egress must have a notice displayed clearly indicating its purpose and such a notice must not be internally illuminated; and (iv) notwithstanding (2)(c), a sliding door may be fitted where— (A) it leads directly to a road or open space and forms a main entrance; and (B) it is capable of swinging in the direction of egress when pressure is applied to the inside face of the door; and (C) the door is provided with signage that clearly indicates to persons seeking egress, the potential for swinging the door open in an emergency. (3) A power-operated door in a path of travel to a required exit, except for a door in a patient care area of a Class 9a health-care building as provided in (2), 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.	
D3D25	**Swinging doors**	
OK	(1) A swinging door in a required exit or forming part of a required exit— (a) must not encroach— (i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit; and (ii) when fully open, by more than 100 mm on the required width of the required exit; and (b) must swing in the direction of egress unless— (i) it serves a building or part with a floor area not more than 200 m2, 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 (ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and (c) must not otherwise impede the path or direction of egress. (2) The measurement of encroachment referred to in (1)(a) in each case is to include door handles or other furniture or attachments to the door.	The proposed building design complies with the DTS provisions of this clause. Exit doors are identified swinging in the direction of egress, capable to comply with this clause.

D3D26 & NSW D3D26	Operation of latch	
CRA	(1) A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by— (a) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D4— (i) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (ii) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or (b) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor. (2) Where the latch operation device referred to in (1)(b) is not located on the door leaf itself— (a) manual controls to power-operated doors must be at least 25 mm wide, proud of the surrounding surface and located— (i) not less than 500 mm from an internal corner; and (ii) for a hinged door, between 1 m and 2 m from the door leaf in any position; and (iii) for a sliding door, within 2 m of the doorway and clear of a surface mounted door in the open position; and (b) braille and tactile signage complying with S15C3 and S15C6 must identify the latch operation device. (3) The requirements of (1) and (2) do not apply to a door that— (a) serves a vault, strong-room, sanitary compartment, or the like; or (b) serves only, or is within— (i) a sole-occupancy unit in a Class 2 building or a Class 4 part of a building; or (ii) 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 (iii) in a Class 5, 6, 7 or 8 building; or (iv) a space which is otherwise inaccessible to persons at all times when the door is locked; or (c) complies with (4) and serves—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure doors unlock in fire mode with fail-safe device (connected to smoke detection or sprinkler systems) or are always operable without a key (single-downward push lever door handle with return).

(i) Australian Government Security Zones 4 or 5; or
(ii) the secure parts of a bank, detention centre, mental health facility, early childhood centre or the like; or
(d) is fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system (other than a FPAA101D system) complying with Specification 17 or smoke, or any other detector system deemed suitable in accordance with AS 1670.1 installed throughout the building, and is readily openable when unlocked; or
(e) is in a Class 9a or 9c building and—
(i) is one leaf of a two-leaf door complying with D2D9(1)(a) or D2D9(1)(d) provided that it is not held closed by a locking mechanism and is readily openable; and
(ii) the door is not required to be a fire door or smoke door.
(4) A door referred to in (3)(c) must be able to be immediately unlocked—
(a) by operating a fail-safe control switch, not contained within a protective enclosure, to actuate a device to unlock the door; or
(b) 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.
(5) The requirements of (1) and (2) do not apply in a Class 9b building (other than a school, an early childhood centre or a building used for religious purposes) to a door in a required exit, forming part of a required exit or in the path of travel to a required exit serving a storey or room accommodating more than 100 persons, determined in accordance with D2D18, in which case it must be readily openable—
(a) without a key from the side that faces a person seeking egress; and
(b) by a single hand pushing action on a single device such as a panic bar located between 900 mm and 1.2 m from the floor; and
(c) where a two-leaf door is fitted, the provisions of (a) and (b) need only apply to one door leaf if the appropriate requirements of D2D9 are satisfied by the opening of that one leaf; and
(d) where the door is a door in a path of travel providing re-entry to the building from a balcony, terrace or the like, it may be fitted with key-operated fastenings only, the tongues of which must be locked in the retracted position whenever the building is occupied by the public, so the door can yield to pressure.

	(6) The requirements of (1), (2) and (5) do not apply to a door serving a Class 9b building used as an entertainment venue where the following provisions apply to a door or gate used by the public— (a) on a door, the single device operating the latch or bolts must be a panic bar if those doors are to be secured; or (b) an exit door or gate used by the public as the main entrance may be fitted with key-operated fastenings only, the tongues of which must be locked in the retracted position whenever the building is occupied by the public so the door or gate can yield to pressure from within; or (c) a door from a balcony, terrace or the like, being a door in a path of travel providing re-entry to the building, may comply with the locking provision of (b) above.	
D3D27	**Re-entry from fire-isolated exits**	
CRA	(1) Doors of a fire-isolated exit must not be locked from the inside as follows: (a) In a Class 9a health-care building. (b) In a Class 9b early childhood centre. (c) In a Class 9c building. (d) In a fire-isolated exit serving any storey above an effective height of 25 m, throughout the exit. (2) The requirements of (1)(a), (c) and (d) do not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm and— (a) 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 (b) 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. (3) The requirements of (1)(b) do not apply to a door fitted with a fail-safe device that automatically unlocks the door serving the Class 9b early childhood centre upon the activation of a fire alarm.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is over 25m in effective height, thus re-entry from fire-isolated exits is required.

D3D28	Signs on doors	
CRA	(1) 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, in accordance with (2)— (a) a required— (i) fire door providing direct access to a fire-isolated exit, except a door providing direct egress from a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; and (ii) smoke door; and (b) any door which is a— (i) fire door forming part of a horizontal exit; and (ii) smoke door that swings in both directions; and (iii) door leading from a fire isolated exit to a road or open space. (2) A sign required by (1)(a) must be fixed 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, either a sign must be fixed on the wall adjacent to the doorway, or signs must be fixed to both sides of the door. (3) A sign required by (1)(b) must be fixed on each side of the door. (4) A sign referred to in (1) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state the following: (a) For an automatic door held open by an automatic hold-open device— FIRE SAFETY DOOR — DO NOT OBSTRUCT (b) For a self-closing door— FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN (a) For a door discharging from a fire-isolated exit— FIRE SAFETY DOOR — DO NOT OBSTRUCT	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. All fire doors serving as exits must be provided with signage in accordance with this clause.
D3D29	**Protection of openable windows**	
CRA	(1) A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in— (a) a bedroom in a Class 2 or 3 building or Class 4 part of a building; or (b) a Class 9b early childhood centre.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Openable windows located higher than 2m require child-proof protection. Windows without an 865mm sill will not

(2) Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening covered by (1) must comply with the following:
(a) The openable portion of the window must be protected with—
(i) a device capable of restricting the window opening; or
(ii) a screen with secure fittings.
(b) A device or screen required by (a) must—
(i) not permit a 125 mm sphere to pass through the window opening or screen; and
(ii) resist an outward horizontal action of 250 N against the—
(A) window restrained by a device; or
(B) screen protecting the opening; and
(iii) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden.
(3) A barrier with a height not less than 865 mm above the floor is required to an openable window—
(a) in addition to window protection, when a child resistant release mechanism is required by (2)(b)(iii); and
(b) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (1).
(4) A barrier covered by (3) except for (5) must not—
(a) permit a 125 mm sphere to pass through it; and
(b) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing.
(5) A barrier required by (3) to an openable window in—
(a) fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, excluding external stairways and external ramps; and
(b) Class 7 (other than carparks) and Class 8 buildings and parts of buildings containing those classes, must not permit a 300 mm sphere to pass through it.

be openable. Any other will be provided with a 125mm max child-proof restriction (i.e. chain winders, or the like).

Part D4 – Access for People with Disabilities		
Clause	Reference	Comment
CRA	Access Consultant to review and prepare Access Report.	Access Consultant to review and prepare Access Report.
Section E: Services and Equipment		
Part E1 – Fire Fighting Equipment		
Clause	Reference	Comment
E1D2	**Fire Hydrants**	
CRA	(1) A fire hydrant system must be provided to serve a building— having a total floor area greater than 500 m2 (a) ; and (b) where a fire brigade station is— (i) no more than 50 km from the building as measured along roads; and (ii) equipped with equipment capable of utilisi21ng a fire hydrant. (2) The fire hydrant system must be installed in accordance with AS 2419.1. (3) Notwithstanding (2), a Class 8 electricity network substation need not comply with clause 4.2 of AS 2419.1 if— (a) it cannot be connected to a town main supply; and (b) one hour water storage is provided for fire-fighting. (4) Where internal fire hydrants are provided, they must serve only the storey on which they are located except that a sole-occupancy unit— (a) in a Class 2 or 3 building or Class 4 part of a building may be served by a single fire hydrant located at the level of egress from that sole-occupancy unit; or (b) of not more than 2 storeys in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hydrant located at the level of egress from that sole-occupancy unit provided the fire hydrant can provide coverage to the whole of the sole-occupancy unit.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - The building has a floor area of more than 500m2, thus required to be provided with a fire hydrant system. - The proposed fire hydrant booster (FHB) is located at French Avenue which is understood being the principal pedestrian entrance of the building, in compliance with this clause. - Internal fire hydrant outlets are shown within fire-isolated stairs, and on the landings at the level they serve (except ground floor), in compliance with this clause. - The proposed fire pump room leads directly to the road or open space, in compliance with AS2419.1-2021. Hydraulic Engineer to assess and confirm compliance.
E1D3	**Fire Hose Reels**	
CRA	(1) E1D3 does not apply to— (a) a Class 2, 3 or 5 building or Class 4 part of a building; or (b) a Class 8 electricity network substation; or (c) a Class 9c building; or (d) classrooms and associated corridors in a primary or secondary school.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Fire hose reels are required to serve the whole building where an internal fire hydrant system is installed, or when

(2) A fire hose reel system must be provided—
(a) to serve the whole building where one or more internal fire hydrants are installed; or
(b) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m2.
(3) The fire hose reel system must—
(a) have fire hose reels installed in accordance with AS 2441; and
(b) provide fire hose reels to serve only the storey at which they are located, except a sole-occupancy unit of not more than 2 storeys in a Class 6, 7, 8 or 9 building may be served by a single fire hose reel located at the level of egress from that sole-occupancy unit provided the fire hose reel can provide coverage to the whole of the sole-occupancy unit.
(4) Fire hose reels must be located internally, externally or in combination, to achieve the system coverage specified in AS 2441.
(5) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system:
(a) Fire hose reels must be located adjacent to an internal fire hydrant (other than one within a fire-isolated exit), except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved.
(b) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved.
(c) Where system coverage is not achieved by compliance with (a) and (b), additional fire hose reels may be located in paths of travel to an exit to achieve the required coverage.
(6) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except—
(a) doorways in walls referred to in C3D6(1)(e) in a Class 9a building and C3D6(5)(d) in a Class 9c building, separating ancillary use areas of high potential fire hazard; and
(b) doorways in walls referred to in C3D13 or C3D14 separating equipment or electrical supply systems; and
(c) doorway openings to shafts referred to in C4D14.
(7) Where the normal water supply cannot achieve the flow and pressures required by AS 2441, or is unreliable—
(a) a pump; or

served by a street fire hydrant system and the building has a fire compartment of 500m2 or more.
- Fire hose reels are to be provided 4m from the exits, in compliance with this clause.
Note: Class 2 buildings parts are not required to be provided with fire hose reels.
Hydraulic Engineer to assess and confirm compliance.

	(b) water storage facility; or (c) both a pump and water storage facility, must be installed to provide the minimum flow and pressures required by clause 6.1 of AS 2441.	
E1D4	**Sprinklers**	
Noted	A sprinkler system must— (a) be installed in a building or part of a building when required by E1D5 to E1D12 as applicable; and (b) comply with Specification 17 and Specification 18 as applicable.	This clause is for informational purposes only, and no additional action is required.
E1D5	**Where sprinklers are required: all classifications**	
CRA	Sprinklers are required throughout all buildings if any part of the building has an effective height of more than 25 m— (a) including an open-deck carpark within a multi-classified building; but (b) excluding— (i) an open-deck carpark being a separate building; and a Class 8 electricity network substation, with a floor area not more than 200 m2 (ii), located within a multi-classified building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building has an effective height of greater than 25m, thus required to be provided with a sprinkler system.
E1D9	**Where sprinklers are required: Class 7a building, other than an open-deck carpark**	
N/A	In a Class 7a building, other than an open-deck carpark, sprinklers are required in fire compartments where more than 40 vehicles are accommodated.	Not applicable – This clause is not applicable to this project. No action is required. The proposed basement carparks accommodate less than 40 vehicles, thus not required to be provided with sprinkler protection as per this clause. However, the building will be provided with AS2118.1-2017 sprinkler system as per the clause E1D5.
E1D11	**Where sprinklers are required: Class 9b buildings**	
CRA	(1) In a Class 9b building, other than an early childhood centre, see Part I1. (2) In a building containing a Class 9b early childhood centre, sprinklers are required throughout the whole building, including any part of another class.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - The building contains Class 9b childcare centre and to be provided with a full sprinkler system (AS2118.1). - The proposed halls are not entertainment venue.

E1D14	Portable fire extinguishers	
CRA	(1) Portable fire extinguishers must be— (a) provided as listed in (3) and (4); and (b) for a Class 2, 3 or 5 building or Class 4 part of a building, provided— (i) to serve the whole Class 2, 3 or 5 building or Class 4 part of a building where one or more internal fire hydrants are installed; or (ii) where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m2, and for the purposes of this clause, a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building is considered to be a fire compartment; and (c) subject to (2), selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. (2) Portable fire extinguishers provided in a Class 2 or 3 building or Class 4 part of a building must be— (a) an ABE type fire extinguisher; and (b) a minimum size of 2.5 kg; and (c) distributed outside a sole-occupancy unit— (i) to serve only the storey at which they are located; and (ii) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10 m. (3) In Class 2 to 9 buildings (except within sole-occupancy units of a Class 9c building), portable fire extinguishers must be provided as follows: (a) To cover Class AE or E fire risks associated with emergency services switchboards. (b) To cover Class F fire risks involving cooking oils and fats in kitchens. (c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles). To cover Class A fire risks in normally occupied fire compartments less than 500 m2 (d) not provided with fire hose reels (excluding open-deck carparks). (e) To cover Class A fire risks in classrooms and associated corridors in primary and secondary schools not provided with fire hose reels. (f) To cover Class A fire risks associated with a Class 2, 3 or 5 building or Class 4 part of a building. (4) In addition to the requirements of (3), portable fire extinguishers must be provided to cover Class A and E fire risks in the following occupancies in buildings, or parts of a building:	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Portable fire extinguishers are to be provided throughout.

	(a) A Class 9a health-care building, including a Class 9a building used as a residential care building. (b) Class 3 parts of detention and correctional occupancies. (c) Class 3 accommodation for children, aged persons and people with disabilities, including a Class 3 building used as a residential care building. (d) A Class 9c building. (5) For the purposes of (3) and (4): (a) Fire risks are defined in accordance with AS 2444. (b) An emergency services switchboard is one which sustains emergency equipment operating in the emergency mode. (c) A Class E fire extinguisher need only be located at each nurses' station, supervisors' station or the like. (d) Additional extinguishers may be required to cover fire risks in relation to special hazards provided for in E1D17. (e) The fire risks in a Class 2 or 3 building or Class 4 part of a building must include risks within any sole-occupancy units, however portable fire extinguishers are not required to be located within a sole-occupancy unit unless the sole-occupancy unit has a floor area greater than 500 m2.	
E1D15	**Fire control centres**	
CRA	A fire control centre facility in accordance with Specification 19 must be provided for— (a) a building with an effective height of more than 25 m; and (b) a Class 6, 7, 8 or 9 building with a total floor area of more than 18000 m2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Fire control centre FIP (FDCIE) to be within a level fire rated control room (2 hrs FRL) to serve the building over 50m in effective height.
E1D16	**Fire precautions during construction**	
CRA	In a building under construction— (a) not less than 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 each required exit or temporary stairway or exit; and (b) after the building has reached an effective height of 12 m—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Portable fire extinguishers are to be provided, maintained and operable during construction.

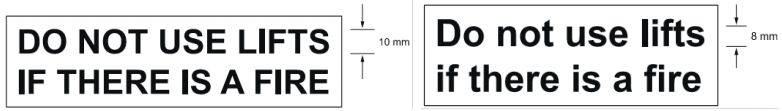
	(i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storeys; and (ii) any required booster connections must be installed.	- Fire hydrant and fire hose reel systems to be active once the building riches 12m effective height.
E1D17	**Provision for special hazards**	
CRA	Suitable additional provision must be made if special problems of fighting fire could arise because of— (a) the nature or quantity of materials stored, displayed or used in a building or on the allotment; or (b) the location of the building in relation to a water supply for fire-fighting purposes.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. No excessive hazards are envisaged, however specialist to confirm compliance. Note: Consider provision for future installation of EV charging stations. Electrical / Fire Engineer to assess and confirm compliance.
Part E2 – Smoke Hazard Management		
Clause	**Reference**	**Comment**
E2D3	**Air handling systems other than as part of a smoke hazard management system**	
CRA	(1) An air-handling system which does not form part of a smoke hazard 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, subject to (2), be designed and installed— (a) to operate as a smoke control system in accordance with AS 1668.1; or (b) such that it— (i) incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (ii) 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. (2) For the purposes of (1), each sole-occupancy unit in a Class 2 or 3 building is treated as a separate fire compartment.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure fresh air intake and aircon system shall not impact the functionality of the smoke hazard management systems (smoke and alarm system).

	(3) 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. (4) 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.	
E2D4	**Fire-isolated exits**	
CRA	(1) A part of a building listed in (2) must be provided with— (a) an automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1; or (b) open access ramps or balconies in accordance with D3D6. (2) The requirements of (1) apply to— (a) a required fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp serving— (i) any storey above an effective height of 25 m; or (ii) more than 2 below ground storeys, not counted in the rise in storeys in accordance with C2D3; or (iii) an atrium to which Part G3 applies; or (iv) a Class 9a building with a rise in storeys of more than 2; or (v) a Class 9c building with a rise in storeys of more than 2; or (vi) a Class 3 building used as a residential care building with a rise in storeys of more than 2; and (b) a required fire-isolated passageway or fire-isolated ramp with a length of travel more than 60 m to a road or open space. (3) An automatic air pressurisation system for a fire-isolated exit must serve the entire exit	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Fire-isolated stairs require a stair pressurisation system as serving levels above 25m in effective height. Mechanical Engineer to assess and confirm compliance.
E2D5	**Buildings more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building**	
CRA	An automatic smoke detection and alarm system complying with Specification 20 must be provided to the following: (a) A Class 2 or 3 building which is more than 25 m in effective height. (b) A Class 2 or 3 part of a building, or a Class 4 part of a building, in a building which is more than 25 m in effective height.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

		An automatic smoke detection and alarm system complying with Spec 20, is required. Electrical Engineer to assess and confirm compliance.
E2D6	**Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 or 9b buildings**	
CRA	(1) A Class 5, 6, 7b, 8 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 25 m in effective height. (2) The requirements of (1) do not apply to a building that has a fire compartment containing a Class 5, 6, 7b, 8 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, 3, 9a or 9c building. (3) For the purposes of (1), 'vertically separated fire compartments' are fire compartments above and below each other, and not fire compartments within the same storey.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Zone pressurisation system complying with AS 1668.1, is required. Electrical Engineer to assess and confirm compliance.
E2D12	**Class 7a buildings**	
CRA	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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Mechanical ventilation system is to be provided in the basement carpark complying with AS1668.1 and AS1668.2.
NSW E2D16	**Class 9b – Assembly buildings: All**	
CRA	The following provisions apply to all Class 9b assembly buildings: (a) A building or part of a building used as an assembly building must be provided with automatic shutdown of any air-handling system (other than non-ducted individual room units with a capacity not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 6 of AS 1668.1) which does not form part of the smoke hazard management system, on the activation of— (i) smoke detectors installed complying with S20C6; and (ii) any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - An automatic shutdown system is required if a ducted aircon system is proposed to comply with this clause. Smoke detection associated to this shutdown is also necessary. - Stage in Community Multipurpose Hall 3 is measured more than 50m2, thus additional measures (i.e. smoke vent, smoke exhaust, etc) is required.

	(b) A basement not counted in the rise in storeys in accordance with C2D3, less than 2000 m2 used as an assembly building or part of an assembly building containing an auditorium or other public area, must be equipped with— (i) an automatic smoke detection system in accordance with Specification 20; or (ii) an automatic zone pressurisation system in accordance with AS 1668.1 if the basement has more than one fire compartment; or if the basement forms part of a multi fire compartmented building served by the zone pressurisation system; or (iii) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. (c) Stages and backstages: (i) For the purposes of this clause, where a stage is separated from the auditorium by a proscenium wall incorporating a proscenium opening, a backstage room or area that is not separated from the stage by construction having an FRL of not less than 60/60/60, is taken to form part of the stage. (ii) A building or part of a building used as an assembly building which has a stage with a floor area of more than 50 m2 and not more than 150 m2 must, over the stage, be provided with— (A) an automatic smoke exhaust system complying with Specification 21 (including Figure S21C2); or (B) roof mounted automatic smoke-and-heat vents complying with NSW I4D59, in a single storey building or the top storey of a multi storey building. (iii) A building or part of a building used as an assembly building which has a stage with a floor area of more than 150 m2 must, over the stage, be provided with an automatic smoke exhaust system complying with Specification 21 (including Figure S21C2). (iv) A building or part of a building used as an assembly building which has a stage equipped with means of flying scenery must, over the stage, be provided with an automatic smoke exhaust system complying with Specification 21 (including Figure S21C2).	
NSW E2D19	**Class 9b – assembly buildings: other assembly buildings**	
CRA	(1) Unless otherwise described in (2), in a building or part of a building used as an assembly building (not being a night club, discotheque or the like; or an exhibition hall, museum or art gallery) where the floor area of a fire compartment is more than 2000 m2, the fire compartment must be provided with— (a) an automatic smoke exhaust system complying with Specification 21; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) roof mounted automatic smoke-and-heat vents complying with Specification 22, in a single storey building or the top storey of a multi storey building; or if the floor area of the fire compartment is not more than 5000 m2 (c) and the building has a rise in storeys of not more than 2— (i) an automatic smoke detection and alarm system complying with Specification 20; or (ii) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. (2) The following buildings are exempt from the provisions of (1): (a) Sporting complexes, (including sports halls, gymnasiums, swimming pools, ice and roller rinks, and the like) other than indoor sports stadiums with total spectator seating for more than 1000 persons. (b) Churches and other places used solely for religious worship. (c) School classrooms. (3) A building containing a Class 9b early childhood centre must be provided with an automatic smoke detection and alarm system complying with Specification 20 throughout the whole building, including any part of another Class.	- The building has fire compartment of more than 2000m2, thus, to be provided with smoke exhaust system complying with Specification 21. - The building comprises of an early childhood centre, thus must be provided with automatic smoke detection and alarm system complying with Specification 20.
E2D21	**Provision for special hazards**	
CRA	Additional smoke hazard management measures may be necessary due to the— (a) special characteristics of the building; or (b) special function or use of the building; or (c) special type or quantity of materials stored, displayed or used in a building; or (d) special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. No excessive hazards are envisaged, however specialist to confirm compliance. Note: Consider provision for future installation of EV charging stations. Electrical / Fire Engineer to assess and confirm compliance.
Part E3 – Lift Installations		
Clause	**Reference**	**Comment**
E3D2	**Lift installations**	
CRA	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification 24.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

E3D3	**Stretcher facility in lifts**	
CRA	(1) A stretcher facility in accordance with (2) must be provided— (a) in at least one emergency lift required by E3D5; or (b) where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12 m, in at least one of those lifts to serve each floor served by the lifts. (2) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building is greater than 12m in effective height, thus a stretcher facility of 600x2000x1400mm is required to be provided in the building in accordance with AS1735.12.
E3D4	**Warning against use of lifts in fire**	
CRA	(1) A warning sign must be displayed where it can be readily seen near every call button for a passenger lift or group of lifts throughout a building. (2) The requirements of (1) do not apply to a small lift such as a dumb-waiter or the like that is for the transport of goods only. (3) Each warning sign required by (1) must comply with the details and dimensions of Figure E3D4 and consist of— (a) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or (b) letters incised or inlaid directly into the surface of the material forming the wall. Figure E3D4: Warning sign for passenger lifts (both options are suitable) 	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
E3D5	**Emergency lifts**	
CRA	(1) At least one emergency lift complying with (4) must be installed in— (a) a building which has an effective height of more than 25 m; and (b) a Class 9a building in which patient care areas are located at a level that does not have direct egress to a road or open space. (2) An emergency lift may be combined with a passenger lift and must serve those storeys served by the passenger lift so that all storeys of the building served by passenger lifts are served by at least one emergency lift.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building is over 25m effective height thus required to be provided with an emergency lift.

	(3) Where two or more passenger lifts are installed and serve the same storeys, excluding a lift that is within an atrium and not contained wholly within a shaft— (a) at least two emergency lifts must be provided to serve those storeys; and (b) if located within different shafts, at least one emergency lift must be provided in each shaft. (4) An emergency lift must— (a) be contained within a fire-resisting shaft in accordance with C3D11; and (b) in a Class 9a building serving a patient care area— (i) have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3D5; and (ii) be connected to a standby power supply system where installed; and (c) if the building has an effective height of more than 75 m, have a rating of at least— (i) 600 kg if not provided with a stretcher facility; or (ii) 900 kg if provided with a stretcher facility.	
E3D6	**Landings**	
CRA	Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Parts D2, D3 and D4.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
E3D7	**Passenger lift types and their limitations**	
CRA	(1) In an accessible building, every passenger lift must be one of the following lift types, subject to the limitations (if any) of each lift type: (a) There are no limitations on the use of electric passenger lifts, electrohydraulic passenger lifts or inclined lifts. (b) Stairway platform lifts must not— (i) be used to serve a space in a building accommodating more than 100 persons calculated according to D2D18; or (ii) be used in a high traffic public use area such as a theatre, cinema, auditorium, transport interchange, shopping centre or the like; or (iii) be used where it is possible to install another type of passenger lift; or (iv) connect more than 2 storeys; or (v) where more than 1 stairway lift is installed, serve more than 2 consecutive storeys; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(vi) when in the folded position, encroach on the minimum width of a stairway required by D2D8 to D2D11. (c) A low-rise platform lift must not travel more than 1000 mm. (d) A low-rise, low-speed constant pressure lift must not— (i) for an enclosed type, travel more than 4 m; or (ii) for an unenclosed type, travel more than 2 m; or (iii) be used in a high traffic public use areas in buildings such as a theatre, cinema, auditorium, transport interchange, shopping complex or the like. (e) A small-sized, low-speed automatic lift must not travel more than 12 m. (2) A passenger lift referred to in (1) must not rely on a constant pressure device for its operation if the lift car is fully enclosed.	
E3D9	**Fire service controls**	
CRA	Where lifts serve any storey above an effective height of 12 m, the following must be provided: (a) A fire service recall control switch complying with E3D11 for— (i) a group of lifts; or (ii) a single lift not in a group that serves the storey. (b) A lift car fire service drive control switch complying with E3D12 for every lift	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
E3D11	**Fire service recall control switch**	
CRA	(1) Each group of lifts must be provided with one fire service recall control switch required by E3D9 that activates the fire service recall operation at (6). (2) The switch required by (1) must— (a) be located at the landing nominated by the appropriate authority; and (b) be labelled "FIRE SERVICE" in indelible white lettering on a red background; and (c) have two positions with an "OFF" and an "ON" position identified; and (d) be operable only by the use of a key that is removable in either the "OFF" position or the "ON" position. (3) Adhesive labels must not be used for compliance with (2)(b) and (c). (4) The key in (2)(d) must be able to turn all fire service recall control switches in the building and must have a different key combination to other keys used for lifts in the building. (5) The fire service recall operation must be activated by— (a) switching the fire service recall control switch in (1) to "ON"; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) a signal from a fire management system approved by the appropriate authority. (6) The activation of the fire service recall operation at (5) must— (a) cancel all registered car and landing calls; and (b) inactivate all door reopening devices that may be affected by smoke; and (c) ensure lift cars travelling toward the nominated floor continue to the nominated floor without stopping; and (d) ensure lift cars travelling away from the nominated floor stop at or before the next available floor without opening the doors (either automatically or by the door open button), reverse direction and travel without stopping to the nominated floor; and (e) for lifts stopped at a floor other than the nominated floor, close the doors and travel without stopping to the nominated floor; and (f) ensure that lifts stay at the nominated floor with doors open; and (g) permit all lifts to return to normal service if the fire service recall control switch at (1) is switched to the "OFF" position during or after the fire service recall operation. (7) The requirements of (6) do not apply to lifts on inspection service or when the lift car fire service control switch required by E3D12 is in the "ON" position. (8) Lifts having manual controls must signal an alert to the lift for the lift to return to the nominated floor containing the recall switch that activated the signal.	
E3D12	**Lift car fire service drive control switch**	
CRA	(1) The lift car fire service drive control switch required by E3D9 must be activated from within the lift car. (2) The switch must— (a) be located between 600 mm and 1500 mm above the lift car floor; and (b) be labelled "FIRE SERVICE" by indelible white lettering on a red background; and (c) have two positions with an "OFF" and an "ON" position identified; and (d) operate only by the use of a key that is removable in either the "OFF" position or the "ON" position. (3) Adhesive labels must not be used for compliance with (2)(b) or (c). (4) When the lift car fire service drive control switch at (1) is turned to the "ON" position, the lift must— (a) not respond to the fire service recall control switch; and (b) cancel all registered lift car and landing calls; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(c) override all lift car call access control systems; and
(d) inactivate all door reopening devices that may be affected by smoke; and
(e) allow the registration of lift car call by lift car call buttons, however the lift doors must not close in response to the registration of lift car calls; and
(f) activate door closing by constant pressure being applied on the "door close" button unless the button is released before the doors are fully closed, in which case the doors must reopen and any registered lift car calls must be cancelled; and
(g) when the doors are closed, move the lift in response to registered lift car calls while allowing additional lift car calls to also be registered; and
(h) travel to the first possible floor in response to registered lift car calls and cancel all registered lift car calls after the lift stops; and
(i) ensure doors do not open automatically, rather by constant pressure being applied on the "door open" button unless the button is released before the doors are fully open, in which case the doors must re-close.
(5) The requirements of (4)(a) to (i) do not apply to a lift operating on inspection service.
(6) A multi-deck lift installation must have systems in place that—
(a) are able to communicate to the fire officer that the fire service drive control switch will not operate until all decks have been cleared of passengers; and
(b) ensure there is an appropriate method of clearing all deck landings of passengers; and
(c) maintain all doors to deck landings not containing the fire service control switch closed and inoperative while the lift is on fire service drive control.

Part E4 – Visibility in an Emergency, Exit Signs and Warning Systems		
Clause	Reference	Comment
E4D2	**Emergency lighting requirements**	
CRA	An emergency lighting system must be installed— (a) in every fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; and (b) in every storey of a Class 5, 6, 7, 8 or 9 building where the storey has an area more than 300 m2— (i) in every passageway, corridor, hallway, or the like, that is part of the path of travel to an exit; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Emergency lighting to be provided throughout the building.

in any room having a floor area more than 100 m2 (ii) that does not open to a corridor or space that has emergency lighting or to a road or open space; and in any room having a floor area more than 300 m2 (iii) ; and
(c) in every passageway, corridor, hallway, or the like, having a length of more than 6 m from the entrance doorway of any sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building to the nearest doorway opening directly to—
(i) a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or
(ii) an external stairway serving instead of a fire-isolated stairway under D2D13; or
(iii) an external balcony leading to a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp; or
(iv) a road or open space; and
(d) in every required non-fire-isolated stairway; and
(e) in a sole-occupancy unit in a Class 5, 6 or 9 building if—
the floor area of the unit is more than 300 m2 (i) ; and
(ii) an exit from the unit does not open to a road or open space or to an external stairway, passageway, balcony or ramp, leading directly to a road or open space; and
(f) in every room or space to which there is public access in every storey in a Class 6 or 9b building if— the floor area in that storey is more than 300 m2 (i) ; or
(ii) any point on the floor of that storey is more than 20 m from the nearest doorway leading directly to a stairway, ramp, passageway, road or open space; or
(iii) egress from that storey involves a vertical rise within the building of more than 1.5 m, or any vertical rise if the storey concerned does not admit sufficient light; or
(iv) the storey provides a path of travel from any other storey required by (i), (ii) or (iii) to have emergency lighting; and
(g) in a Class 9a health-care building—
(i) in every passageway, corridor, hallway, or the like, serving a treatment area or a ward area; and
(ii) in every room having a floor area of more than 120 m2 in a patient care area; and
(h) in every Class 9c building excluding within sole-occupancy units; and
(i) in every required fire control centre.

E4D3	**Measurement of distance**	
Noted	Distances, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	This clause is for informational purposes only, and no additional action is required.
E4D4	**Design and operation of emergency lighting**	
CRA	Every required emergency lighting system must comply with AS/NZS 2293.1	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
E4D5	**Exit signs**	
CRA	An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each— (a) door providing direct egress from a storey to— (i) an enclosed stairway, passageway or ramp serving as a required exit; and (ii) an external stairway, passageway or ramp serving as a required exit; and (iii) an external access balcony leading to a required exit; and (b) door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space; and (c) horizontal exit; and (d) door serving as, or forming part of, a required exit in a storey required to be provided with emergency lighting in accordance with E4D2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Exit signs to be provided throughout the building.
NSW E4D6	**Direction signs**	
Noted	If an exit is not readily apparent to persons occupying or visiting the building, then exit signs must be installed— (a) in appropriate positions in corridors, hallways, lobbies, foyers, auditoria, and the like, indicating the direction to a required exit; and (b) in a Class 9b building used as an entertainment venue — in any external egress path to a road where the exit does not open directly onto a road.	This clause is for informational purposes only, and no additional action is required.
E4D8	**Design and operation of exit signs**	
CRA	Every required exit sign must— (a) comply with— (i) AS/NZS 2293.1; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(ii) for a photoluminescent exit sign, Specification 25; and (b) be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.	
E4D9	**Emergency warning and intercom systems**	
CRA	An emergency warning and intercom system complying, where applicable, with AS 1670.4 must be installed— (a) in a building with an effective height of more than 25 m; and (b) in a Class 3 building having a rise in storeys of more than 2 and used as— (i) the residential part of a primary or secondary school; or (ii) accommodation for the aged, children or people with a disability; and (c) in a Class 3 building used as a residential care building, except that the system— (i) must be arranged to provide a warning for occupants; and (ii) in areas used by the residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents; and (d) in a Class 9a building having a floor area of more than 1000 m2 or a rise in storeys of more than 2, and the system— (i) must be arranged to provide a warning for occupants; and (ii) in a ward area, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of patients; and (e) in a Class 9b building— (i) used as a school and having a rise in storeys of more than 3; or (ii) used as a theatre, public hall, or the like, having a floor area more than 1000 m2 or a rise in storeys of more than 2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The proposed building has an effective height of more than 25m, thus EWIS is to be provided.

Specification 17 – Fire Sprinkler System		
Clause	**Reference**	**Comment**
S17C2	**Application of automatic fire sprinkler standards**	
Noted	Subject to this Specification, an automatic fire sprinkler system must comply with— (a) for all building classifications: AS 2118.1; or (b) for a Class 2 or 3 building with an effective height of not more than 25 m and a rise in storeys of 4 or more: Specification 18 and the relevant provisions of this Specification as applicable; or	This clause is for informational purposes only, and no additional action is required.

	(c) for Class 5, 6, 7, 8, 9a (other than a residential care building) or 9b (other than a Class 9b early childhood centre) parts of a building with an effective height not more than 25 m, which also contains Class 2 or 3 parts: a sprinkler system in accordance with Specification 18 as for a Class 2 or 3 building and the relevant provisions of this Specification except— (i) a FPAA101D sprinkler system cannot be used where the Class 5, 6, 7, 8, 9a (other than a residential care building) or 9b parts— (A) contain more than 2 storeys; or (B) are more than 25% of the total floor area of the building; or (C) are located above the fourth storey; and (ii) a FPAA101D or FPAA101H sprinkler system cannot be used where the Class 7a part (other than an open-deck carpark) accommodates more than 40 vehicles; or (d) for a combined sprinkler and fire hydrant system: AS 2118.6; or (e) for a Class 9a health-care building used as a residential care building: AS 2118.4 as applicable; or (f) for a Class 2, 3 or 9c building: AS 2118.4 as applicable.	
S17C3	**Separation of sprinklered and non-sprinklered areas**	
CRA	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— (a) comply with any specific requirement of the Deemed-to-Satisfy Provisions of the BCA; or (b) where there is no specific requirement, comply with the relevant part of AS 2118, FPAA101D or FPAA101H.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Sprinklers may be omitted from the main switch, and other service rooms, subject to further review at final design stage. To be confirmed prior to construction.
S17C4	**Protection of openings**	
CRA	Any openings, including those for service penetrations, in construction separating sprinklered and non-sprinklered parts of a building, including the construction separating the areas nominated for omitted protection in AS 2118.1, must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C5	**Quick response sprinklers**	
CRA	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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S17C6	**Sprinkler valve enclosures**	
CRA	(1) Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space. (2) All sprinkler valve rooms and enclosures must be secured with a system suitable for use by the fire brigade.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Sprinkler valve to be directly connected to the road. To be included in the drawings.
S17C7	**Water supply**	
CRA	(1) A required sprinkler system must be provided with at least one water supply. (2) 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— (a) the storage tank is located at the topmost storey of the building; and (b) the building occupancy is classified as no more hazardous than Ordinary Hazard 2 (OH2) under AS 2118.1; and (c) an operational fire brigade service is available to attend a building fire.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C8	**Building occupant warning system**	
CRA	A required sprinkler system, except a FPAA101D sprinkler system, must be connected to and activate a building occupant warning system complying with S20C7.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C9	**Connection to other systems**	
CRA	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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C10	**Anti-tamper devices**	
CRA	(1) Where a sprinkler system is installed— (a) 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 (b) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(2) Any valves provided to control sprinklers required by (1) must be fitted with anti-tamper monitoring devices connected to a monitoring panel.	
S17C11	**Sprinkler systems in carparks**	
CRA	A sprinkler system protecting a carpark complying with S5C19(3) in a multi-classified building must— (a) be independent of the sprinkler system protecting any part of the building not used as a carpark; or (b) 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	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C13	**Sprinkler systems in lift installations**	
CRA	(1) 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— (a) have heads protected from accidental damage by way of a guard that will not impair the performance of the head; and (b) be capable of being isolated and drained, either separately or collectively, without isolating any other sprinklers within the building. (2) Valves provided to control sprinklers referred to in (1) must be installed in accordance with S17C10(2).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S17C14	**Early childhood centres**	
CRA	Quick response sprinklers must be provided to a Class 9b early childhood centre required to have an automatic fire sprinkler system. Note: S17C14 does not apply to a Class 9b early childhood centre— (a) wholly within a storey that provides direct egress to a road or open space; or (b) with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in that building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Class 9b childcare facilities must have quick response sprinklers installed. Fire Services Engineer to assess and confirm compliance with this clause.

Specification 19 – Fire Control Centre		
Clause	Reference	Comment
S19C3	**Purpose and content of fire control centre**	
CRA	A fire control centre must— (a) provide an area from which fire-fighting operations or other emergency procedures can be directed or controlled; and (b) contain controls, panels, telephones, furniture, equipment and the like associated with the required fire services in the building; and (c) not be used for any purpose other than the control of— (i) fire-fighting activities; and (ii) other measures concerning the occupant safety or security.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S19C4	**Location of fire control centre**	
CRA	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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Fire control room may have a change in level of more than 300mm. To be clarified prior to construction.
S19C5	**Equipment not permitted within a fire control centre**	
CRA	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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S19C6	**Ambient sound level for a fire control centre**	
CRA	(1) 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). (2) The measurement must be taken for a sufficient time to characterise the effects of all sound sources. (3) Where there is not a great variation in noise level, a measurement time of 60 seconds may be used.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S19C7	**Construction of a fire control room**	
CRA	A fire control centre in a building more than 50 m in effective height must be in a separate room where— (a) 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 (b) any material used as a finish, surface, lining or the like within the room complies with the requirements of Specification 7; and (c) 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 (d) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building has an effective height of more than 50m, thus a fire control room to be provided with 2 hrs FRL enclosure.
S19C8	**Protection of openings in a fire control room**	
CRA	Openings permitted by S19C7 must be protected as follows: (a) 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. (b) 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. (c) 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. (d) Openings associated with natural or mechanical ventilation must— (i) not be made in any ceiling or floor immediately above or below the fire control room; and (ii) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S19C9	**Doors to a fire control room**	
?	(1) 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. (2) The fire control room must be accessible via two paths of travel— (a) one from the front entrance of the building; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. From the information provided, it is understood that door from proposed fire control room (FCR) is shown opening

	(b) 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.	to the front entrance (French Avenue), is capable to comply with this clause, however an accessway from a public space is also required. To be clarified.
S19C10	**Size and contents of a fire control room**	
CRA	(1) A fire control room must contain— (a) a Fire Indicator Panel and necessary control switches and visual status indication for all required fire pumps, smoke control fans and other required fire safety equipment installed in the building; and (b) a telephone directly connected to an external telephone exchange; and (c) a blackboard or whiteboard not less than 1200 mm wide x 1000 mm high; and (d) a pin-up board not less than 1200 mm wide x 1000 mm high; and (e) a raked plan layout table of a size suitable for laying out the plans provided under (f); and (f) colour-coded, durable, tactical fire plans. (2) In addition, a fire control room may contain— (a) master emergency control panels, lift annunciator panels, remote switching controls for gas or electrical supplies and emergency generator backup; and (b) building security, surveillance and management systems if they are completely segregated from all other systems. (3) A fire control room must— (a) have a floor area of not less than 10 m2 and the length of any internal side must be not less than 2.5 m; and (b) if only the minimum prescribed equipment is installed — have a net floor area of not less than 8 m2 with a clear space of not less than 1.5 m2 in front of the Fire Indicator Panel; and (c) if additional equipment is installed — have an additional area of not less than 2 m2 net floor area for each additional facility and a clear space of not less than 1.5 m2 in front of each additional control or indicator panel; and (d) be constructed such that the area required for any path of travel through the room to other areas is provided in addition to the requirements (b) and (c).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S19C11	Ventilation and power supply for a fire control room	
CRA	(1) A fire control room must be ventilated by— (a) 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 (b) a pressurisation system that only serves the fire control room, and— (i) is installed in accordance with AS 1668.1 as though the room is a fire-isolated stairway; and (ii) is activated automatically by operation of the fire alarm, or sprinkler system complying with Specification 17, installed in the building and manually by an over-riding control in the room; and (iii) 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 (iv) 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 (v) 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. (2) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S19C12	**Sign for a fire control room**	
CRA	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	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S19C13	**Lighting for a fire control room**	
CRA	Emergency lighting in accordance with the Deemed-to-Satisfy Provisions of Part E4 must be provided in a fire control room, except that an illumination level of not less than 400 lux must be maintained at the surface of the plan table.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Specification 20 – Smoke Detection and Alarm Systems		
Clause	**Reference**	**Comment**
S20C2	**Type of system**	
CRA	A required automatic smoke detection and alarm system must be provided in accordance with the following: (a) Class 2 buildings and Class 4 parts of a building—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) a smoke alarm system complying with S20C3; or (ii) a smoke detection system complying with S20C4; or (iii) a combination of a smoke alarm system and a smoke detection system complying with S20C5. (b) Class 3 buildings— (i) with a Class 3 part located more than 2 storeys above ground level — a smoke detection system complying with S20C4; or (ii) which accommodate more than 20 residents and are the residential part of a school, accommodation for the aged, children or people with a disability — a smoke detection system complying with S20C4; or (iii) all other Class 3 buildings— (A) a smoke alarm system complying with S20C3; or (B) a smoke detection system complying with S20C4; or (C) a combination of a smoke alarm system and a smoke detection system complying with S20C5. (c) Class 5, 6, 7, 8, 9b and 9c buildings — a smoke detection system complying with S20C4 (d) Class 9a health-care buildings— (i) where more than 6 bed patients are accommodated — a smoke detection system complying with S20C4; or (ii) where 6 or less bed patients are accommodated— (A) a smoke alarm system complying with S20C3; or (B) a smoke detection system complying with S20C4.	
S20C3	**Smoke alarm system**	
CRA	(1) In all Class 2 - 9 buildings provided with a smoke alarm system, the following applies: (a) A smoke alarm system must— (i) consist of smoke alarms complying with AS 3786; and (ii) be powered from the consumer mains source. (b) In kitchens and other areas where the use of the area is likely to result in smoke alarms causing spurious signals, subject to (c)— (i) any other alarm deemed suitable in accordance with AS 1670.1 may be installed provided that smoke alarms are installed elsewhere in the sole-occupancy unit in accordance with (2)(a) and (2)(b); or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(ii) an alarm acknowledgement facility may be installed. (c) Where a kitchen or other area referred to in (b) is in a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D system), alarms need not be installed in the kitchen or other area likely to result in spurious signals. (2) In a Class 2 or 3 building or Class 4 part of a building provided with a smoke alarm system, the following applies: (a) Alarms must be installed within each sole-occupancy unit, and located on or near the ceiling in any storey— (i) containing bedrooms— (A) between each part of the sole-occupancy unit containing bedrooms and the remainder of the sole-occupancy unit; and (B) where bedrooms are served by a hallway, in that hallway; and (ii) not containing any bedrooms, in egress paths. (b) Where there is more than one alarm installed within a sole-occupancy unit, alarms must be interconnected within that sole-occupancy unit. (c) Subject to (d), alarms must be— (i) installed in public corridors and other internal public spaces, located in accordance with the requirements for smoke detectors in AS 1670.1; and (ii) connected to activate a building occupant warning system in accordance with S20C7. (d) In a Class 2 or 3 building or Class 4 part of a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D system), alarms are not required in public corridors and other internal public spaces. (3) In a Class 9a building provided with a smoke alarm system, smoke alarms must be— (a) installed in every room, public corridor and other internal public space; and (b) located in accordance with the requirements for smoke detectors in AS 1670.1; and (c) interconnected to provide a common alarm; and (d) have manual call points installed in evacuation routes so that no point on a floor is more than 30 m from a manual call point.	
S20C4	**Smoke detection system**	
CRA	(1) In all Class 2 - 9 buildings provided with a smoke detection system, the following applies: (a) A smoke detection system must— (i) subject to (2) and (3), comply with AS 1670.1; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(ii) activate a building occupant warning system in accordance with S20C7.
(b) In kitchens and other areas where the use of the area is likely to result in smoke detectors causing spurious signals, subject to (c)—
(i) any other detector deemed suitable in accordance with AS 1670.1 may be installed provided that smoke detectors are installed elsewhere in the sole-occupancy unit in accordance with the requirements for alarms in S20C3(2)(a) and (2)(b); or
(ii) an alarm acknowledgement facility may be installed.
(c) Where a kitchen or other area referred to in (b) is in a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D or FPAA101H system), detectors need not be installed in the kitchen or other areas likely to result in spurious signals.
(2) In a Class 2 or 3 building or Class 4 part of a building provided with a smoke detection system, the following applies:
(a) Smoke detectors must be installed—
(i) within each sole-occupancy unit, in accordance with the requirements for alarms in S20C3(2)(a) and (2)(b); and
(ii) subject to (b), in public corridors and other internal public spaces.
(b) In a Class 2 or 3 building or Class 4 part of a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D or FPAA101H system), smoke detectors are not required in public corridors and other internal public spaces.
(3) In a Class 9a health-care building provided with a smoke detection system, the following applies:
(a) Except as provided in (b)—
(i) photoelectric type smoke detectors must be installed in patient care areas and in paths of travel to exits from patient care areas; and
(ii) in areas other than patient care areas and paths of travel to exits from patient care areas, where the use of the area is likely to result in smoke detectors causing spurious signals, any other detector deemed suitable in accordance with AS 1670.1 may be installed in lieu of smoke detectors.
(b) The requirements of (a) do not apply where an area is protected with a sprinkler system complying with Specification 17, smoke detectors need not be installed where the use of the area is likely to result in spurious signals.

	(c) Manual call points must be installed in evacuation routes so that no point on a floor is more than 30 m from a manual call point. (4) In a Class 9c building provided with a smoke detection system, the following applies: (a) remote automatic indication of each zone must be given in each smoke compartment by means of— (i) mimic panels with an illuminated display; or (ii) annunciator panels with alpha numeric display; and (b) if the building accommodates more than 20 residents, manual call points must be installed in paths of travel so that no point on a floor is more than 30 m from a manual call point.	
S20C5	**Combined smoke alarm and smoke detection system**	
CRA	(1) A Class 2 or 3 building or Class 4 part of a building provided with a combination of a smoke alarm system and smoke detection system in accordance with S20C2 must— (a) be provided with a smoke alarm system complying with S20C3 within sole-occupancy units; and (b) subject to (2), be provided with a smoke detection system complying with S20C4 in areas not within sole-occupancy units. (2) In a Class 2 or 3 building or Class 4 part of a building protected with a sprinkler system complying with Specification 17 (other than a FPAA101D or FPAA101H system), smoke detectors are not required in public corridors and other internal public spaces.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S20C6	**Smoke detection for smoke control systems**	
CRA	(1) Smoke detectors required to activate air pressurisation systems for fire-isolated exits and zone pressurisation systems must— (a) be installed in accordance with AS 1670.1; and (b) have additional smoke detectors installed adjacent to each bank of lift landing doors set back horizontally from the door openings by a distance of not more than 3 m. (2) Smoke detectors required to activate— (a) automatic shutdown of air-handling systems in accordance with E2D16, E2D17 or E2D19; or (b) a smoke exhaust system in accordance with Specification 21, must comply with the requirements of (3). (3) Smoke detectors referred to in (2) must— (a) be spaced—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) not more than 20 m apart and not more than 10 m from any wall, bulkhead or smoke curtain; and (ii) in enclosed malls and walkways in a Class 6 building not more than 15 m apart and not more than 7.5 m from any wall, bulkhead or curtain; and (b) have a sensitivity— (i) in accordance with AS 1670.1 in areas other than a multi-storey walkway and mall in a Class 6 building; and (ii) not exceeding 0.5% smoke obscuration per metre with compensation for external airborne contamination as necessary, in a multi-storey walkway and mall in a Class 6 building. (4) Smoke detectors provided to activate a smoke control system must— (a) either— (i) form part of a building fire or smoke detection system complying with AS 1670.1; or (ii) be a separate dedicated system incorporating control and indicating equipment complying with AS1670.1; and (b) activate a building occupant warning system complying with S20C7, except that smoke detectors provided solely to initiate automatic shutdown of air-handling systems in accordance with (2)(a) need not activate a building occupant warning system	
S20C7	**Building occupant warning system**	
CRA	Subject to E4D9, a building occupant warning system provided as part of a smoke hazard management system must comply with clause 3.22 of AS 1670.1 to sound through all occupied areas except— (a) in a Class 2 and 3 building or Class 4 part of a building provided with a smoke alarm system in accordance with S20C3(2)(c)— (i) the sound pressure level need not be measured within a sole-occupancy unit if a level of not less than 85 dB(A) is provided at the door providing access to the sole-occupancy unit; and (ii) the inbuilt sounders of the smoke alarms may be used to wholly or partially meet the requirements; and (b) in a Class 2 and 3 building or Class 4 part of a building provided with a smoke detection system in accordance with S20C4(2), the sound pressure level from a building occupant warning system need not be measured within a sole-occupancy unit if a level of not less than 100 dB(A) is provided at the door providing access to the sole-occupancy unit; and (c) in a Class 3 building used as a residential care building, the system—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) must be arranged to provide a warning for occupants; and (ii) in areas used by residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents; and (d) in a Class 9a health-care building, in a patient care area, the system— (i) must be arranged to provide a warning for occupants; and (ii) in a ward area, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of the patients; and (e) in a Class 9c building, the system— (i) must be arranged to provide a warning for occupants; and (ii) must notify staff caring for the residents of the building; and (iii) in areas used by residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents.	
Specification 21 – Smoke Exhaust Systems		
Clause	**Reference**	**Comment**
S21C2	**Smoke Exhaust Capacity**	
CRA	(1) Smoke exhaust fans must have a sufficient capacity to contain the smoke layer— (a) within a smoke reservoir formed in accordance with S21C4 and not less than 2 m above the highest floor level; and (b) above the top of any openings interconnecting different smoke reservoirs. (2) Exhaust rates must be determined in accordance with Figure S21C2, with the height measurement taken from the lowest floor level to the underside of the smoke layer and the fire load determined in accordance with Table S21C2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S21C3	**Smoke Exhaust Fans**	
CRA	Each smoke exhaust fan, complete with its drive, flexible connections, control gear and wiring must— (a) be constructed and installed so that it is capable of continuous operation (exhausting the required volumetric flow rate at the installed system resistance) at a temperature of 200°C for a period of not less than 1 hour; and (b) in a building not fitted with a sprinkler system, be capable of continuous operation at a temperature of 300°C for a period of not less than 30 minutes; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) be rated to handle the required volumetric flow rate at ambient temperature to be capable of exhausting cool smoke during the early stages of a fire and to allow routine testing; and (d) have any high temperature overload devices installed, automatically overridden during the smoke exhaust operation.	
S21C4	**Smoke reservoirs**	
CRA	(1) A fire compartment must be divided at ceiling level into smoke reservoirs formed by smoke baffles/curtains of non-combustible and non-shatterable construction. (2) The horizontal area of a smoke reservoir must not exceed 2000 m2 and in enclosed walkways and malls of a Class 6 building must not exceed 60 m in length. (3) Smoke reservoirs must be of sufficient depth to contain the smoke layer and must not be less than 500 mm below an imperforate ceiling or roof. (4) Within a multi-storey fire compartment— (a) a non-combustible bulkhead or smoke baffle/curtain must be provided around the underside of each opening into a building void to minimise the spread of smoke to other storeys; and (b) the depth of the bulkhead or smoke baffle must be not less than the depth of the smoke reservoir provided under (3) plus an additional 400 mm.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S21C5	**Smoke exhaust fan and vent location**	
CRA	Smoke exhaust fans and vents must be located— (a) such that each smoke reservoir is served by one or more fans with the maximum exhaust rate at any one point limited to avoid extracting air from below the smoke layer; and (b) to prevent the formation of stagnant regions resulting in excessive cooling and downward mixing of smoke; and (c) at natural collection points for the hot smoky gases within each smoke reservoir having due regard to the ceiling geometry and its effect on the migratory path of the smoke; and (d) away from the intersection of walkways or malls; and (e) to ensure that any voids containing escalators and/or stairs commonly used by the public are not used as a smoke exhaust path; and (f) to discharge directly to outdoor with a velocity of not less than 5 m/s, at a suitable point not less than 6 m from any air intake point or exit.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S21C6	**Make-up air**	
CRA	(1) Low level make-up air must be provided either automatically or via permanent ventilation openings to replace the air exhausted so as to minimise— (a) any disturbance of the smoke layer due to turbulence created by the incoming air; and (b) the risk of smoke migration to areas remote from the fire due to the effect of make-up air on the air balance of the total system. (2) The velocity of make-up air through doorways must not exceed 2.5 m/s. (3) Within a multi-storey fire compartment, make-up air must be provided across each vertical opening from a building void to the fire-affected storey at an average velocity of 1 m/s so as to minimise the spread of smoke from the fire-affected storey to other storeys.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S21C7	**Smoke exhaust system control**	
CRA	(1) Each smoke exhaust fan must be activated sequentially by smoke detectors complying with Specification 20 and arranged in zones to match the smoke reservoir served by the fan(s). (2) Subject to (3) and (4), an air handling system (other than individual room units less than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 6 of AS 1668.1) which does not form part of the smoke hazard management system must be automatically shut down on the activation of the smoke exhaust system. (3) In a single storey fire compartment, air handling systems in all non fire-affected zones may operate on 100% outdoor air to provide make-up air to the fire-affected zone. (4) Within a multi-storey fire compartment air handling systems in all non fire-affected zones and storeys must operate at 100% outdoor air to provide make-up air to the fire-affected storey via building voids connecting storeys. (5) Manual override control and indication together with operating instructions for use by emergency personnel must be provided adjacent to the fire indicator panel in accordance with the requirements of clauses 4.11 and 4.13 of AS 1668.1. (6) Manual control for the smoke exhaust system must also be provided at a location normally used by the stage manager in a theatre. (7) Power supply wiring to exhaust fans together with detection, control, and indication circuits (and where necessary to automatic make-up air supply arrangements) must comply with AS 1668.1.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S21C8	Smoke detection	
CRA	A smoke detection system must be installed in accordance with Specification 20 to activate the smoke exhaust system.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 24 – Lift Installations		
Clause	**Reference**	**Comment**
S24C2	**Lift cars exposed to solar radiation**	
CRA	(1) A lift car exposed to solar radiation directly, or indirectly by re-radiation, must have— (a) mechanical ventilation at a rate of one air change per minute; or (b) mechanical cooling. (2) A 2 hour alternative power source for ventilation or mechanical cooling at (1) must be provided in the event of normal power loss.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S24C3	**Lift car emergency lighting**	
CRA	A lift car must have an emergency lighting system designed— (a) to come on automatically upon failure of the normal lighting supply; and (b) to provide at least 20 lux of lighting for 2 hours on the alarm initiation button.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S24C4	**Cooling of lift shaft**	
CRA	While a lift in a lift shaft is in service, the cooling of the lift shaft must— (a) ensure that the dry bulb air temperature in the lift shaft does not exceed 40°C; and (b) if the cooling is by a ventilation system, be provided with an air change rate determined using a temperature rise of no more than 5 K.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S24C5	**Lift foyer access**	
CRA	Where there is a security foyer in a building, access may be via locked security doors provided— (a) security doors revert to the unlocked state in the event of— (i) power failure; or (ii) fire alarm; and (b) locked foyer areas are monitored by closed circuit television and intercom system to a 24 hour staffed location.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S24C6	Emergency access doors in a single enclosed lift shaft	
CRA	(1) Where a lift is installed in a single enclosed lift shaft having a distance between normal landing entrances greater than 12.2 m, emergency access doors must be provided and constructed as follows: (a) The clear opening size of emergency doors must be not less than 600 mm wide x 980 mm high. (b) Hinged doors must not open towards the interior of the lift shaft. (c) Doors must be self-closing and self-locking. (d) Doors must be marked on the landing side with the letters not less than 35 mm high: DANGER LIFTWELL ACCESS KEEP FURNITURE AND FIXTURES CLEAR (e) Doors from the landing side must only be openable by a tool. (f) Each emergency door must be provided with a positive breaking electrical contact, wired into the control circuit to prevent movement of the lift until the emergency door is both closed and locked. (2) Emergency egress from the lift car must be provided in single enclosed lift shafts where— (a) ropes are installed; and (b) the vertical distance between the lift car sill and the landing door head is less than 600 mm; and (c) the counterweight is resting on its fully compressed buffer. (3) Emergency egress required by (2) must be in the form of an interlocked door with clear opening dimensions not less than 600 mm x 600 mm, accessible from the lift car entrance or the lift car roof (where the door is located in the wall of the lift shaft).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 25 – Photoluminescent exit signs		
Clause	Reference	Comment
S25C3	Illumination	
CRA	A photoluminescent exit sign must— (a) be maintained in a continuously charged state by a minimum illumination of 100 lux at the face of the sign by a dedicated light source with a colour temperature not less than 4000 K; and (b) in the event of a power failure, continue to provide a minimum luminance of 30 mcd/m2 for not less than 90 minutes; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) have its performance verified by testing in accordance with ASTM E2073-10, except the activation illumination in clause 8.3 is replaced with 54 lux.	
S25C4	**Pictorial elements**	
CRA	Pictorial elements on a photoluminescent exit sign must— (a) where the colour white is used, be replaced with a photoluminescent material; and (b) be not less than 1.3 times larger than that specified in Table 5.1 of AS/NZS 2293.1; and (c) have a border of photoluminescent material that extends not less than 15 mm beyond the pictorial elements.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S25C5	**Viewing distance**	
CRA	The maximum viewing distance in clause 5.6 of AS/NZS 2293.1 must not be more than 24 m.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Section F: Health and Amenity		
Deemed-to-satisfy Provisions		
Clause	Reference	Comment
F1D3	**Stormwater drainage**	
CRA	Stormwater drainage must be designed and constructed in accordance with AS/NZS3500.3	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F1D4	**Exposed joints**	
CRA	Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must— (a) be protected in accordance with Section 2.9 of AS 4654.2; and (b) not be located beneath or run through a planter box, water feature or similar part of the building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F1D5	**External waterproofing membranes**	
CRA	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane— (a) consisting of materials complying with AS 4654.1; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(b) designed and installed in accordance with AS 4654.2.	Horizontal surfaces i.e. balconies and verandas will need waterproofing. To be confirmed prior to construction.
F1D6	**Damp-proofing**	
CRA	(1) Except for a building covered by (3), moisture from the ground must be prevented from reaching— (a) the lowest floor timbers and the walls above the lowest floor joists; and (b) the walls above the damp-proof course; and (c) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. (2) Where a damp-proof course is provided, it must consist of— (a) a material that complies with AS/NZS 2904; or (b) impervious sheet material in accordance with AS 3660.1. (3) The following buildings need not comply with (1): (a) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes. (c) An open spectator stand or open-deck carpark.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F1D7	**Damp-proofing of floors on the ground**	
CRA	(1) If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870. (2) The requirements of (1) do not apply where— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Slab on ground will be provided with vapour barrier.

Part F2 – Wet areas and overflow protection		
Clause	**Reference**	**Comment**
F2D2	**Wet area construction**	
CRA	(1) In a Class 2 and 3 building and a Class 4 part of a building, building elements in wet areas must— (a) be water resistant or waterproof in accordance with Specification 26; and (b) comply with AS 3740. (2) In a Class 5, 6, 7, 8 or 9 building, building elements in a bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must— (a) be water resistant or waterproof in accordance with Specification 26; and (b) comply with AS 3740, as if they were in a Class 2 or 3 building or a Class 4 part of a building.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Wet areas to be waterproofed.
F2D3	**Rooms containing urinals**	
CRA	(1) Where a slab or stall type urinal is installed— (a) the floor surface of the room containing the urinal must be an impervious material; and (i) where no step is installed, must— (A) be graded to the urinal channel for a distance of 1.5 m from the urinal channel; and (B) have the remainder of the floor graded to a floor waste; and (ii) where a step is installed— (A) the step must have an impervious surface and be graded to the urinal channel; and (B) the floor behind the step must be graded to a floor waste; and (b) the junction between the floor surface and the urinal channel must be impervious. (2) Where a wall hung urinal is installed— (a) the wall must be surfaced with impervious material extending from the floor to the top of the urinal and not less than 225 mm on each side of the urinal; and (b) the floor must be surfaced with an impervious material and be graded to a floor waste. (3) In a room with timber or steel-framed walls and containing a urinal— (a) the wall must be surfaced with an impervious material extending from the floor to not less than 100 mm above the floor surface; and (b) the junction of the floor surface and the wall surface must be impervious.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

F2D4	Floor Waste	
CRA	(1) In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at any level above a sole occupancy unit or public space must have a floor waste. (2) Where a floor waste is installed— (a) the minimum continuous fall of a floor plane to the waste must be 1:80; and (b) the maximum continuous fall of a floor plane to the waste must be 1:50.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure falls of floor wastes are within the tolerances of this clause. (1:50-1:80). To be confirmed prior to construction.

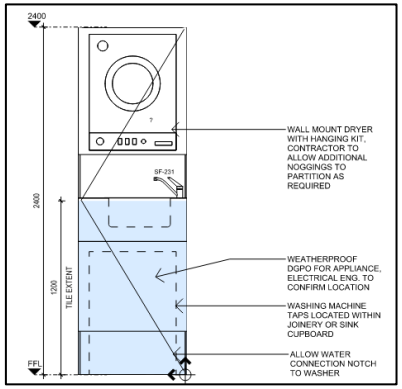
Part F3 – Roof and Wall Cladding		
Clause	Reference	Comment
F3D1	Weatherproofing	
Noted	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.	This clause is for informational purposes only, and no additional action is required. External wall systems from this part can achieve DTS compliance any other alternative may require a Performance Solution. Façade Engineer to assess and confirm compliance.
F3D2	Roof Coverings	
CRA	A roof must be covered with— (a) roof tiles complying with AS 2049, fixed in accordance with AS 2050; or (b) metal sheet roofing complying with AS 1562.1; or (c) plastic sheet roofing designed and installed in accordance with AS 1562.3; or (d) terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS4597, except in cyclonic areas; or (e) an external waterproofing membrane complying with F1D5.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F3D3	Sarking	
CRA	Sarking-type material used for weatherproofing of roofs and walls must comply with AS/NZS 4200.1 and AS 4200.2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

F3D4	**Glazed assemblies**	
CRA	(1) Subject to (2) and (3), the following glazed assemblies in an external wall, must comply with AS 2047 requirements for resistance to water penetration: (a) Windows. (b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame. (c) Adjustable louvres. (d) Shopfronts. (e) Window walls with one piece framing. (2) The following buildings need not comply with (1): (a) A Class 7 or 8 building where in the particular case there is no necessity for compliance. (b) 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. (c) An open spectator stand or open-deck carpark. (3) The following glazed assemblies need not comply with (1): (a) All glazed assemblies not in an external wall. (b) Revolving doors. (c) Fixed louvres. (d) Skylights, roof lights and windows in other than the vertical plane. (e) Sliding and swinging glazed doors without a frame. (f) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047. (g) Second-hand windows, re-used windows and recycled windows. (h) Heritage windows.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F3D5	**Wall cladding**	
CRA	(1) External wall cladding must comply with one or a combination of the following: (a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700. (b) Autoclaved aerated concrete: AS 5146.3. (c) Metal wall cladding: AS 1562.1. (2) The following buildings need not comply with (1):	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(a) A Class 7 or 8 building where in the particular case there is no necessity for compliance.
(b) 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 contributed to the weatherproofing of another part of the building that is required to be weatherproofed.
(c) An open spectator stand or open deck carpark.

Part F4 – Sanitary and other facilities		
Clause	**Reference**	**Comment**
F4D2	**Facilities in residential buildings**	
CRA	(1) For facilities in Class 2 buildings, the following applies: (a) Within each sole-occupancy unit, provide— (i) a kitchen sink and facilities for the preparation and cooking of food; and (ii) a bath or shower; and (iii) a closet pan; and (iv) a washbasin. (b) For laundry facilities, provide either— (i) in each sole-occupancy unit— (A) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (B) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line, or space for one heat operated drying cabinet or appliance in the same room as the clothes washing facilities; or (ii) a separate laundry for each 4 sole-occupancy units, or part thereof, that must comprise— (A) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (B) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line per sole-occupancy unit, or space for one heat operated drying cabinet or appliance. (c) For the purposes of (a) and (b), a kitchen sink or washbasin must not be counted as a laundry washtub. (2) For facilities in Class 3 buildings other than residential care buildings, the following applies:	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The following facilities are provided in Class 2 residential part, capable to comply with this clause. • Bath or shower • Closet pan • Washbasin • Laundry facilities with wash tub, space for washing machine and a drier. Note: From the information provided, it is understood that, stacked laundry will be provided in Studios with washtub at 1200mm and washing machine under.

(a) For residents in each building or group of buildings, for each 10 residents for whom private facilities are not provided, provide—
(i) a bath or shower; and
(ii) a closet pan; and
(iii) a washbasin.
(b) Notwithstanding (a), if one urinal is provided for each 25 males up to 50 and one additional urinal for each additional 50 males or part thereof, one closet pan for each 12 males may be provided.
(c) Facilities for employees must be provided in accordance with F4D4.
(d) Facilities required by (a), (b) or (c) need not be situated in the same building.
(3) For facilities in Class 3 residential care buildings, the following applies:
(a) For residents in each building or group of buildings, provide—
(i) a shower, closet pan and wash basin for each 8 residents or part thereof where private facilities are not provided; and
(ii) a suitable bath for each 30 residents or part thereof.
(b) For the purposes of (a), urinals must not be taken into consideration in calculating the number of facilities.
(4) For facilities in a Class 4 part of a building, the following applies:
(a) For the sole-occupancy unit, provide—
(i) a kitchen sink and facilities for the preparation and cooking of food; and
(ii) a bath or shower; and
(iii) a closet pan; and
(iv) a washbasin; and
(v) clothes washing facilities, comprising a washtub and space in the same room for a washing machine; and
(vi) a clothes line or hoist, or space for a heat-operated drying cabinet or similar appliance for the exclusive use of the occupants.
(b) For the purposes of (a), a kitchen sink or washbasin must not be counted as a laundry washtub.
(5) For facilities in Class 9c buildings, the following applies:
(a) For residents in each building or group of buildings, provide—



(Figure: Sample only)

	(i) a closet pan and wash basin for each 6 residents or part thereof where private facilities are not provided; and (ii) a shower for each 7 residents or part thereof for where private facilities are not provided; and (iii) a suitable bath, fixed or mobile. (b) In addition to the facilities required by (a), provide— (i) one kitchen or other adequate facility for the preparation and cooking or reheating of food including a kitchen sink and washbasin; and (ii) laundry facilities for the cleansing and drying of linen and clothing or adequate facilities for holding and dispatch or treatment of soiled linen and clothing and the like and the receipt and storage of clean linen; and (iii) one clinical hand washing basin for each 16 residents or part thereof. (c) For the purposes of (a), urinals must not be taken into consideration in calculating the number of facilities.	
F4D3	**Calculation of number of occupants and facilities**	
CRA	(1) The number of persons accommodated must be calculated according to D2D18 if it cannot be more accurately determined by other means. (2) Unless the premises are used predominantly by one sex, sanitary facilities must be provided on the basis of equal numbers of males and females. (3) In calculating the number of sanitary facilities to be provided under F4D2 and F4D4, a unisex facility required for people with a disability (other than a facility provided under F4D12) may be counted once for each sex. (4) For the purposes of this Part, a unisex facility comprises one closet pan, one washbasin and means for the disposal of sanitary products	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F4D4	**Facilities in Class 3 to 9 buildings**	
CRA	(1) Except where permitted by (3), (4), (7), F4D5(a) and F4D5(b), separate sanitary facilities for males and females must be provided for Class 3, 5, 6, 7, 8 or 9 buildings in accordance with Tables F4D4a, F4D4b, F4D4c, F4D4d, F4D4e, F4D4f, F4D4g, F4D4h, F4D4i, F4D4j, F4D4k and F4D4l, as appropriate. (2) In Tables F4D4a, F4D4b, F4D4c, F4D4d, F4D4e, F4D4f, F4D4g, F4D4h, F4D4i, F4D4j, F4D4k and F4D4l— (a) 'Number' means the number of facilities required; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The provided number of facilities can accommodate the following number of occupants: <u>Ground floor:</u> • Staff: 10 persons

(b) '>' means greater than; and
(c) a hyphen means no data (refer to the row above for the highest value applicable); and
(d) 'N/A' means not applicable; and
(e) a reference to—
(i) employees includes owners and managers using the building; and
(ii) "add 1 per 100 or 150, 250, 500" etc. includes any part of that number.
(3) If not more than 10 people are employed, a unisex facility may be provided instead of separate facilities for each sex.
(4) If the majority of employees are of one sex, not more than 2 employees of the other sex may share toilet facilities if the facilities are separated by means of walls, partitions and doors to afford privacy.
(5) Employees and the public may share the same facilities in a Class 6 and 9b building (other than a school or early childhood centre) provided the number of facilities provided is not less than the total number of facilities required for employees plus those required for the public.
(6) Adequate means of disposal of sanitary products must be provided in sanitary facilities for use by females.
(7) Separate sanitary facilities for males and females need not be provided for patients in a ward area of a Class 9a building.
(8) A Class 9a health-care building must be provided with—
(a) one kitchen or other adequate facility for the preparation and cooking or reheating of food including a kitchen sink and washbasin; and
(b) laundry facilities for the cleansing and drying of linen and clothing or adequate facilities for holding and dispatch or treatment of soiled linen and clothing, sanitary products and the like and the receipt and storage of clean linen; and
(c) one shower for each 8 patients or part thereof; and
(d) one island-type plunge bath in each storey containing a ward area.
(9) A Class 9b early childhood centre must be provided with—
(a) a kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with—
(i) 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

- Patrons: 200 persons

Levels 1 (childcare):

- Early Learning Centre – To be confirmed at later stage.

Level 1 (community)

- Staff: 30 persons
- Patrons: 400 persons

Levels 6-17

- N/A (residential SOU's with ensuites)

Note: Occupancy numbers may vary during design development depending on changes to user groups, room sizes, clients' requirements, etc.

	(ii) the ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old; and (b) one bath, shower or shower-bath; and (c) if the centre accommodates children younger than 3 years old— (i) a laundry facility comprising a washtub and space in the same room for a washing machine; and (ii) a bench type baby bath, which is within 1 m of the nappy change bench; and (iii) a nappy changing bench which— (A) is within 1 m of separate adult hand washing facilities and bench type baby bath; and must be not less than 0.9 m2 (B) in area and at a height of not less than 850 mm, but not more than 900 mm above the finished floor level; and (C) must have a space not less than 800 mm high, 500 mm wide and 800 mm deep for the storage of steps; and (D) is positioned to permit a staff member changing a nappy to have visibility of the play area at all times. (10) Class 9b theatres and sporting venues must be provided with one shower for each 10 participants or part thereof. (11) Not less than one washbasin must be provided where closet pans or urinals are provided.	
F4D5	**Accessible sanitary facilities**	
CRA	In a building required to be accessible— (a) accessible unisex sanitary compartments must be provided in accessible parts of the building in accordance with F4D6; and (b) accessible unisex showers must be provided in accordance with F4D7; and (c) at each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, not less than one sanitary compartment suitable for a person with an ambulant disability for use by males and one sanitary compartment suitable for a person with an ambulant disability for use by females, must be provided; and (d) an accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary products; and (e) the circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with F4D6 and F4D7 must comply with the requirements of AS 1428.1; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Access Consultant to review and confirm compliance with this clause and AS1428.1.

	(f) an accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only; and (g) where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and (h) where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations; and (i) an accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not required by D4D4(f) to be provided with a passenger lift or ramp complying with AS 1428.1.	
F4D8	**Construction of sanitary compartments**	
CRA	(1) Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend— (a) from floor level to the ceiling in the case of a unisex facility; or (b) to a height of not less than 1.5 m above the floor if primary school children are the principal users; or (c) 1.8 m above the floor in all other cases. (2) The door to a fully enclosed sanitary compartment must— (a) open outwards; or (b) slide; or (c) be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F4D8, between the closet pan within the sanitary compartment and the doorway. (3) In an early childhood centre, facilities for use by children must have each sanitary compartment screened by a partition which, except for the doorway, is opaque for a height of at least 900 mm but not more than 1200 mm above the floor level.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. All sanitary facilities are to be provided with lift-off hinges.

Part F5 – Room heights		
Clause	**Reference**	**Comment**
F5D2	**Height of rooms and other spaces**	
OK	(1) The height of rooms and other spaces in a Class 2 or 3 building or Class 4 part of a building must be not less than— (a) for a kitchen, laundry, or the like — 2.1 m; and	The proposed building design complies with the DTS provisions of this clause.

(b) for a corridor, passageway or the like — 2.1 m; and
(c) for a habitable room excluding a kitchen — 2.4 m; and
(d) in a habitable room, or space within a habitable room, with a sloping ceiling or projections below the ceiling line—
(i) in an attic — a height of not less than 2.2 m for not less than two-thirds of the floor area of the room or space; and
(ii) in other rooms — a height of not less than 2.4 m for not less than two-thirds of the floor area of the room or space; and
(e) in a habitable room, or space within a habitable room, with a sloping ceiling or projections below the ceiling line — a height of not less than 2.1 m for not less than two-thirds of the floor area of the room or space.
(2) For the purposes of (1), when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included.
(3) The height of rooms and other spaces in a Class 5, 6, 7 or 8 building must be not less than—
(a) except as allowed in (b) and (8) — 2.4 m; and
(b) a corridor, passageway, or the like — 2.1 m.
(4) The height of rooms and other spaces in a Class 9a health-care building must be not less than—
(a) for a patient care area — 2.4 m; and
(b) for an operating theatre or delivery room — 3 m; and
(c) for a treatment room, clinic, waiting room, passageway, corridor, or the like — 2.4 m.
(5) The height of rooms and other spaces in a Class 9b building must be not be less than—
(a) for a school classroom or other assembly building or part that accommodates not more than 100 persons — 2.4m; and
(b) for a theatre, public hall or other assembly building or part that accommodates more than 100 persons — 2.7 m; and
(c) for a corridor—
(i) that serves an assembly building or part that accommodates not more than 100 persons — 2.4 m; or
(ii) that serves an assembly building or part that accommodates more than 100 persons — 2.7 m.
(6) For the purposes of (5) the number of persons accommodated must be calculated according to D2D18.

- The building is provided with the following ceiling height in compliance with this clause.
- Class 2 residential part:
  - Habitable rooms: 2.4m
  - Kitchen, laundry, corridors: 2.1m
- Class 9b assembly part:
  - Theatre, hall, assembly area: 2.7m
  - Corridor, passageway: 2.7m
- Carparks: 2.1m
- Stairs / ramps: 2m

- Ensure services (sprinkler head, ducting, etc) and any other obstruction maintain minimum height clearances as per this clause.

(7) The height of rooms and other spaces in a Class 9c building must be not be less than—
(a) for a kitchen, laundry, or the like — 2.1 m; and
(b) for a corridor, passageway or the like — 2.4 m; and
(c) for a habitable room excluding a kitchen — 2.4 m.
(8) The height of rooms and other spaces in any building must be not be less than—
(a) for a bathroom, shower room, sanitary compartment, other than an accessible adult change facility, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and
(b) for a commercial kitchen — 2.4 m; and
(c) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like; and
(d) for a required accessible adult change facility — 2.4 m.

Part F6 – Light and Ventilation		
Clause	**Reference**	**Comment**
F6D2	**Provision of natural light**	
CRA	Natural light must be provided in: (a) A Class 2 building and a Class 4 parts of a building — to all habitable rooms. (b) A Class 3 building — to all bedrooms and dormitories. (c) Class 9a and 9c buildings — to all rooms used for sleeping purposes. (d) A Class 9b building — 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	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. - Windows are provided to all bedrooms and common areas, in compliance with this clause. - ST without windows in Class 2 residential SOU's are understood storage not a study room. Architect to confirm prior to construction.
F6D3	**Methods and extent of natural light**	
CRA	(1) Required natural light must be provided by— (a) windows, excluding roof lights, that— (i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and (ii) are open to the sky or face a court or other space open to the sky or an open veranda, carport or the like; or (b) roof lights, that—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure natural light intake (10%) of floor area complies with the provisions of this clause.

	(i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and (ii) are open to the sky; or (c) a proportional combination of windows and roof lights required by (a) and (b). (2) Except in a Class 9c aged care building, in a Class 2, 3 or 9 building or Class 4 part of a 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— (a) generally — 1 m; and (b) in a patient care area or other room used for sleeping purposes in a Class 9a building — 3 m; and (c) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill. (3) In a Class 9c aged care building, a required window must be transparent and located— (a) in an external wall with the window sill not more than 1 m above the floor level; and (b) where the window faces an adjoining allotment, another building or another wall of the same building, it must not be less than a horizontal distance of 3 m from the adjoining allotment, other building or wall. (4) 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.	
F6D4	**Natural light borrowed from adjoining room**	
CRA	(1) Natural light to a room in a Class 2 building or Class 4 part of a building or in a sole-occupancy unit of a Class 3 building, may come through one or more glazed panels or openings from an adjoining room (including an enclosed veranda) if— (a) both rooms are within the same sole-occupancy unit or the enclosed veranda is on common property; and (b) the glazed panels or openings have an aggregate light transmitting area of not less than 10% of the floor area of the room to which it provides light; and (c) the adjoining room has— (i) windows, excluding roof lights, that— (A) have an aggregate light transmitting area of not less than 10% of the combined floor areas of both rooms; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(B) are open to the sky or face a court or other space open to the sky or an open veranda, carport or the like; or (ii) roof lights, that— (A) have an aggregate light transmitting area of not less than 3% of the combined floor areas of both rooms; and (B) are open to the sky; or (iii) a proportional combination of windows and roof lights required by (i) and (ii). (2) The areas specified in (1)(b) and (c) may be reduced as appropriate if direct natural light is provided from another source.	
F6D5	**Artificial lighting**	
CRA	(1) Artificial lighting must be provided— (a) in required stairways, passageways, and ramps; and (b) if natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in— (i) a Class 4 part of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries; and (ii) a Class 2 building — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and (iii) Class 3, 5, 6, 7, 8 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. (2) The artificial lighting system must comply with AS/NZS 1680.0. (3) The system may provide a lesser level of illumination to the following spaces during times when the level of lighting would be inappropriate for the use: (a) A theatre, cinema or the like, when performances are in progress, with the exception of aisle lighting required by Part I1. (b) A museum, gallery or the like, where sensitive displays require low lighting levels. (c) A discotheque, nightclub or the like, where to create an ambience and character for the space, low lighting levels are used.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building will be provided with a combination of natural and artificial light.

NSW F6D6	Ventilation of rooms	
CRA	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— (a) natural ventilation complying with F6D7; or (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building will be provided with a combination of natural and mechanical ventilation.
F6D7	**Natural ventilation**	
CRA	(1) Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened— (a) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (b) open to— (i) a suitably sized court, or space open to the sky; or (ii) an open veranda, carport, or the like; or (iii) an adjoining room in accordance with F6D8. (2) The requirements of (1)(a) do not apply to a Class 8 electricity network substation	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building will be provided with a combination of natural and mechanical ventilation.
F6D8	**Ventilation borrowed from adjoining room**	
CRA	Natural ventilation to a room may come through a window, opening, door or other device from an adjoining room (including an enclosed veranda) if both rooms are within the same sole-occupancy unit or the enclosed veranda is common property, and— (a) in a Class 2 building, a sole-occupancy unit of a Class 3 building or Class 4 part of a building— (i) the room to be ventilated is not a sanitary compartment; and (ii) the window, opening, door or other device has a ventilating area of not less than 5% of the floor area of the room to be ventilated; and (iii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 5% of the combined floor areas of both rooms; and (b) in a Class 5, 6, 7, 8 (except a Class 8 electricity network substation) or 9 building— (i) the window, opening, door or other device has a ventilating area of not less than 10% of the floor area of the room to be ventilated, measured not more than 3.6 m above the floor; and (ii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 10% of the combined floor areas of both rooms; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building will be provided with a combination of natural and mechanical ventilation.

	(c) the ventilating areas specified in (a) and (b) may be reduced as appropriate if direct natural ventilation is provided from another source.	
F6D9	**Restriction on location of sanitary compartments**	
OK	A sanitary compartment must not open directly into— (a) a kitchen or pantry; or (b) a public dining room or restaurant; or (c) a dormitory in a Class 3 building; or (d) a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand); or (e) a workplace normally occupied by more than one person.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. All sanitary compartments open into a corridor (or ensuite), in compliance with this clause.
F6D10	**Airlocks**	
CRA	If a sanitary compartment is prohibited under F6D9 from opening directly to another room— (a) in a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building— (i) access must be by an airlock, hallway or other room; or (ii) the sanitary compartment must be provided with mechanical exhaust ventilation; and (b) in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)— (i) access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or (ii) the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. All sanitary compartments will be mechanically ventilated.
F6D11	**Carparks**	
CRA	Every storey of a carpark, except an open-deck carpark, must have— (a) a system of mechanical ventilation complying with AS 1668.2; or (b) a system of natural ventilation complying with Section 4 of AS 1668.4.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Carparks are to be mechanically ventilated.
F6D12	**Kitchen local exhaust ventilation**	
CRA	A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and AS1668.2 where— (a) any cooking apparatus has—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) a total maximum electrical power input exceeding 8 kW; or (ii) a total gas power input exceeding 29 MJ/h; or (b) the total maximum power input to more than one apparatus exceeds— (i) 0.5 kW electrical power; or 1.8 MJ/hour gas, per m2 (ii) of floor area of the room or enclosure.	- Proposed kitchens may be considered commercial, thus ensure kitchen exhaust shaft to roof is possible if necessary. - Food Premises Standards AS4674-2004 may be implemented, requiring solid walls to prevent vermin entry and durable, washable surfaces and ceilings to maintain hygiene. Note: Kitchen exhaust hood is necessary if the power input exceeds 8kW or 29ML/h.
Part F7 – Sound transmission and insulation		
Clause	**Reference**	**Comment**
F7D3	**Determination of airborne sound insulation ratings**	
CRA	A form of construction required to have an airborne sound insulation rating must— (a) have the required value for weighted sound reduction index (Rw) or weighted sound reduction index with spectrum adaptation term (Rw + Ctr) determined in accordance with AS/NZS ISO 717.1 using results from laboratory measurements; or (b) comply with Specification 28.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Acoustic Engineer to assess and confirm compliance.
F7D4	**Determination of impact sound insulation ratings**	
CRA	(1) A floor in a building required to have an impact sound insulation rating must— (a) have the required value for weighted normalised impact sound pressure level (Ln,w) determined in accordance with AS ISO 717.2 using results from laboratory measurements; or (b) comply with Specification 28. (2) A wall in a building required to have an impact sound insulation rating must— (a) for a Class 2 or 3 building be of discontinuous construction and (b) for a Class 9c building, must— (i) for other than masonry, be two or more separate leaves without rigid mechanical connection except at the periphery; or (ii) be identical with a prototype that is no less resistant to the transmission of impact sound when tested in accordance with Specification 29 than a wall listed in S28C4 to S28C7. (3) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Sound insulated walls require discontinuous construction (air gap). Acoustic Engineer to assess and confirm compliance.

	(a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	
F7D5	**Sound insulation rating of floors**	
CRA	(1) A floor in a Class 2 or 3 building must have an Rw + Ctr (airborne) not less than 50 and an Ln,w (impact) not more than 62 if it separates— (a) sole-occupancy units; or (b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification. (2) A floor in a Class 9c building separating sole-occupancy units must have an Rw not less than 45.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Sound insulated floors require airborne as pe this clause. Acoustic Engineer to assess and confirm compliance.
F7D6	**Sound insulation rating of walls**	
CRA	(1) A wall in a Class 2 or 3 building must— (a) have an Rw + Ctr (airborne) not less than 50, if it separates sole-occupancy units; and (b) have an Rw (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification; and (c) comply with F7D4(2) if it separates— (i) a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit; or (ii) a sole-occupancy unit from a plant room or lift shaft. (2) A door may be incorporated in a wall in a Class 2 or 3 building that separates a sole-occupancy unit from a stairway, public corridor, public lobby or the like, provided the door assembly has an Rw not less than 30. (3) A wall in a Class 9c building must have an Rw not less than 45 if it separates— (a) sole-occupancy units; or (b) a sole-occupancy unit from a kitchen, bathroom, sanitary compartment (not being an associated ensuite), laundry, plant room or utilities room. (4) In addition to (3), a wall separating a sole-occupancy unit in a Class 9c building from a kitchen or laundry must comply with F7D4(2).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(5) Where a wall required to have sound insulation has a floor above, the wall must continue to— (a) the underside of the floor above; or (b) a ceiling that provides the sound insulation required for the wall. (6) Where a wall required to have sound insulation has a roof above, the wall must continue to— (a) the underside of the roof above; or (b) a ceiling that provides the sound insulation required for the wall.	
F7D7	**Sound insulation rating of internal services**	
CRA	(1) 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 sole-occupancy unit, the duct or pipe must be separated from the rooms of any sole occupancy unit by construction with an Rw + Ctr (airborne) not less than— (a) 40 if the adjacent room is a habitable room (other than a kitchen); or (b) 25 if the adjacent room is a kitchen or non-habitable room. (2) If a stormwater pipe passes through a sole-occupancy unit, it must be separated in accordance with (1)(a) and (b).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F7D8	**Sound isolation of pumps**	
CRA	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part F8 – Condensation Management		
Clause	**Reference**	**Comment**
F8D3	**External walls construction**	
CRA	(1) Where a pliable building membrane is installed in an external wall, it must— (a) comply with AS 4200.1; and (b) be installed in accordance with AS 4200.2; and (c) be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. (2) Where a pliable building membrane, sarking-type material or insulation layer is installed on the exterior side of the primary insulation layer of an external wall it must have a vapour permeance of not less than—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Façade Engineer to assess and confirm compliance with this clause.

	(a) in climate zones 4 and 5, 0.143 µg/N.s; and (b) in climate zones 6, 7 and 8, 1.14 µg/N.s. (3) 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.	
F8D4	**Exhaust systems**	
CRA	(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— (a) 25 L/s for a bathroom or sanitary compartment; and (b) 40 L/s for a kitchen or laundry. (2) Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air. (3) Where space for a clothes drying appliance is provided in accordance with F4D2(1)(b), space must also be provided for ducting from the clothes drying appliance to outdoor air. (4) (3) does not apply if a condensing-type clothes drying appliance is installed. (5) An exhaust system that is not run continuously and is serving a bathroom or sanitary compartment that is not ventilated in accordance with F6D7 must— (a) be interlocked with the room's light switch; and (b) include a run-on timer so that the exhaust system continues to operate for 10 minutes after the light switch is turned off. (6) Except for rooms that are ventilated in accordance with F6D7, a room with space for ducting a clothes drying appliance to outdoor air in accordance with (3) must be provided with make-up air in accordance with AS 1668.2	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
F8D5	**Ventilation of roof spaces**	
N/A	(1) In climate zones 6, 7 and 8, a roof must have a roof space that— (a) is located— (i) immediately above the primary insulation layer; or (ii) immediately above sarking with a vapour permeance of not less than 1.14 µg/N.s, which is immediately above the primary insulation layer; or (iii) immediately above ceiling insulation which meets the requirements of J3D7(3) and J3D7(4); and	Not applicable – This clause is not applicable to this project. No action required. From the information provided, it is understood that the roof will be a concrete slab.

(b) has a height of not less than 20 mm; and
(c) is either—
(i) ventilated to outdoor air through evenly distributed openings in accordance with Table F8D5; or
(ii) located immediately underneath roof tiles of an unsarked tiled roof.
(2) The requirements of (1) do not apply to a—
(a) concrete roof; or
(b) roof that is made of structural insulated panels; or
(c) roof that is subject to Bushfire Attack Level FZ requirements in accordance with AS 3959.

Specification 26 - Waterproofing and water-resistance requirements for building elements in wet areas		
Clause	Reference	Comment
S26C3	**Shower area (enclosed and unenclosed)**	
CRA	(1) For a shower area with a hob, step-down or level threshold, the following applies: (a) The floor of the shower area must be waterproof, including any hob or step-down; and (b) The walls of the shower area must be waterproof not less than 1800 mm above the floor substrate. (c) Wall junctions and joints within the shower area must be waterproof. (d) Wall/floor junctions within the shower area must be waterproof. (e) Penetrations within the shower area must be waterproof. (2) A shower with a preformed shower base must also comply with the requirements of (1), except for (a) which is not applicable.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S26C4	**Area outside shower area**	
CRA	(1) For concrete, compressed fibre-cement and fibre-cement sheet flooring, the floor of the room must be water resistant. (2) For timber floors including particleboard, plywood and other timber based flooring materials, the floor of the room must be waterproof. (3) Wall/floor junctions must be waterproof	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S26C6	Other areas	
CRA	(1) For walls adjoining other types of vessels (e.g. sink, basin or laundry tub), the following applies: (a) Walls must be water resistant to a height of not less than 150 mm above the vessel, for the extent of the vessel, where the vessel is within 75 mm of a wall. (b) Waterproof wall junctions where a vessel is fixed to a wall. (c) Waterproof tap and spout penetrations where they occur in surfaces required to be waterproof or water resistant. (2) For laundries and WCs, other than WCs as described in (3), the following applies: (a) Water resistant floor of the room. (b) Water resistant wall/floor junctions. (c) Waterproof penetrations where they occur in surfaces required to be waterproof. (3) For WCs with a handheld bidet spray installation, the following applies: (a) Waterproof floor of the room. (b) Walls must be— (i) waterproof within a 1500 mm radius from the wall connection of the handheld bidet spray device to a height of not less than 150 mm above the floor substrate; and (ii) water resistant within a 1500 mm radius from the wall connection of the handheld bidet spray device to a height of not less than 1200 mm above the finished floor level of the WC. (c) Waterproof wall junctions within the WC area within 1500 mm radius from the wall connection of the handheld bidet spray device. (d) Waterproof wall/floor junctions within the WC area within 1500 mm radius from the wall connection of the handheld bidet spray device. (e) Waterproof penetrations in WC area. (4) For bathrooms and laundries required to be provided with a floor waste by F2D4, the following applies: (a) Waterproof floor of the room. (b) Waterproof wall/floor junctions. (c) Waterproof penetrations where they occur through the floor	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 28 - Sound insulation for building elements		
Clause	Reference	Comment
S28C2	Discontinuous construction	
CRA	Wall systems listed in S28C4 to S28C7 having a minimum 20 mm cavity between 2 separate leaves are deemed to be discontinuous construction if— (a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S28C3	Construction Deemed-to-Satisfy	
CRA	(1) The forms of wall construction described in S28C4 to S28C7 and floor construction described in S28C8 to S28C10, are considered to have the Rw, Rw + Ctr and Ln,w stated in those clauses. (2) The forms of construction referred to in (1) must be installed as follows: (a) Masonry units must be laid with all joints filled solid, including those between the masonry and any adjoining construction. (b) Joints between concrete slabs or panels and any adjoining construction must be filled solid. (c) For sheeting materials— (i) if one layer is required on both sides of a wall, it must be fastened to the studs with joints staggered on opposite sides; and (ii) if two layers are required, the second layer must be fastened over the first layer so that the joints do not coincide with those of the first layer; and (iii) joints between sheets or between sheets and any adjoining construction must be taped and filled solid. (d) Timber or steel-framed construction — perimeter framing members must be securely fixed to the adjoining structure and— (i) bedded in resilient compound; or (ii) the joints must be caulked so that there are no voids between the framing members and the adjoining structure. (e) Services must not be chased into concrete or masonry elements. A door or panel required to have a certain Rw + Ctr (f) that provides access to a duct, pipe or other service must—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) not open into any habitable room (other than a kitchen); and (ii) be firmly fixed so as to overlap the frame or rebate of the frame by not less than 10 mm, be fitted with a sealing gasket along all edges and be constructed of— (A) wood, particleboard or blockboard not less than 33 mm thick; or (B) compressed fibre-reinforced cement sheeting not less than 9 mm thick; or other suitable material with a mass per unit area not less than 24.4 kg/m2 (C) . (g) A water supply pipe must— (i) only be installed in the cavity of discontinuous construction; and (ii) in the case of a pipe that serves only one sole-occupancy unit, not be fixed to the wall leaf on the side adjoining any other sole-occupancy unit and have a clearance not less than 10 mm to the other wall leaf. (h) Electrical outlets must be offset from each other— (i) in masonry walling, not less than 100 mm; and (ii) in timber or steel-framed walling, not less than 300 mm.	
S28C4	**Acceptable forms of construction for walls — masonry**	
CRA	(1) Acceptable forms of construction for masonry walls are set out in (2) to (9). (2) Two leaves of 110 mm clay brick masonry with— (a) a cavity of not less than 50 mm between leaves; and 50 mm thick glass wool insulation with a density of 11 kg/m3 (b) or 50 mm thick polyester insulation with a density of 20 kg/m3 in the cavity, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C4a. (3) Two leaves of 110 mm clay brick masonry with— (a) a cavity of not less than 50 mm between leaves; and (b) 13 mm cement render on each outside face, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, when constructed as shown in Figure S28C4b. (4) A single leaf of 110 mm clay brick masonry with— (a) a row of 70 mm x 35 mm timber studs or 64 mm steel studs at 600 mm centres, spaced 20 mm from the masonry wall; and (b) 50 mm thick glass or mineral wool insulation with a density of 11 kg/m3 positioned between studs; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) one layer of 13 mm plasterboard fixed to outside face of studs and outside face of masonry, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C4c. (5) A single leaf of 90 mm clay brick masonry with— (a) a row of 70 mm x 35 mm timber studs or 64 mm steels studs at 600 mm centres, spaced 20 mm from each face of the masonry wall; and (b) 50 mm thick mineral insulation or glass wool insulation with a density of 11 kg/m3 positioned between studs in each row; and (c) one layer of 13 mm plasterboard fixed to studs on each outside face, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C4d. (6) A single leaf of 150 mm brick masonry with 13 mm cement render on each face has an Rw of not less than 50 if constructed as shown in Figure S28C4e. (7) A single leaf of 220 mm brick masonry with 13 mm cement render on each face has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C4f. (8) 110 mm thick brick masonry with 13 mm cement render on each face has an Rw of not less than 45 if constructed as shown in Figure S28C4g. (9) 110 mm thick concrete brickwork has an Rw of not less than 45 if constructed as shown in Figure S28C4h. Note: Refer to the abovementioned figures directly from the BCA.	
S28C5	**Acceptable forms of construction for walls — concrete**	
CRA	(1) Acceptable forms of construction for concrete walls are set out in (3) to (12). (2) For the purposes of this clause, the term 'concrete panel' is a reference to a solid in-situ concrete panel or solid precast concrete panel. (3) A 150 mm thick concrete panel has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C5a. (4) A 150 mm thick concrete panel with one layer of 10 mm plasterboard fixed to 28 mm metal furring channels on each face, has an Rw of not less than 50, if constructed as shown in Figure S28C5b. (5) A 200 mm thick concrete panel with one layer of 13 mm plasterboard or 13 mm cement render on each face has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C5c. (6) A 100 mm thick concrete panel with—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(a) a row of 64 mm steel studs at 600 mm centres, spaced 25 mm from the concrete panel; and (b) 80 mm thick polyester insulation or 50 mm thick glass wool insulation with a density of 11 kg/m3, positioned between studs; and (c) two layers of 13 mm plasterboard fixed to outside face of studs and one layer of 13 mm plasterboard fixed to outside face of concrete panel, has an with an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed in accordance with Figure S28C5d. (7) A 125 mm thick concrete panel with— (a) a row of 64 mm steel studs at 600 mm centres, spaced 20 mm from the concrete panel; and (b) 70 mm polyester insulation with a density of 9 kg/m3, positioned between studs; and (c) one layer of 13 mm plasterboard fixed to the outside face of the studs, has an with an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed in accordance with Figure S28C5e. (8) A 125 mm thick concrete panel has an Rw of not less than 50, if constructed as shown in Figure S28C5f. (9) A 100 mm concrete panel with 13 mm cement render or one layer of 13 mm plasterboard on each face has an Rw of not less than 50, if constructed as shown in Figure S28C5g. (10) A 190 mm thick concrete blockwork has an Rw of not less than 45, if constructed as shown in Figure S28C5h. (11) A 140 mm thick concrete blockwork, the face shell thickness of the blocks being not less than 44 mm and with— (a) 50 mm x 50 mm timber battens spaced at not more than 610 mm centres screw-fixed on one face of the blocks into resilient plugs with rubber inserts between battens and the wall; and (b) the face of the battens clad with 13 mm plasterboard, has an Rw of not less than 45, if constructed as shown in Figure S28C5i. (12) A concrete panel, 100 mm thick, has an Rw of not less than 45, if constructed as shown in Figure S28C5j. Note: Refer to the abovementioned figures directly from the BCA.	
S28C6	**Acceptable forms of construction for walls — autoclaved aerated concrete**	
CRA	(1) Acceptable forms of construction for autoclaved aerated concrete walls are set out in (2) to (5). (2) A 75 mm thick autoclaved aerated concrete wall panel with— (a) a row of 64 mm steel studs at 600 mm centres, spaced 20 mm from the autoclaved aerated concrete wall panel; and (b) 75 mm thick glass wool insulation with a density of 11 kg/m3 positioned between studs; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) one layer of 10 mm moisture resistant plasterboard or 13 mm fire protective grade plasterboard fixed to outside face of studs and outside face of autoclaved aerated concrete wall panel, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C6a. (3) A 75 mm thick autoclaved aerated concrete wall panel with— (a) a row of 64 mm steel studs at 600 mm centres, spaced 35 mm from the autoclaved aerated concrete panel wall; and (b) 28 mm metal furring channels fixed to the outside face of the autoclaved aerated concrete wall panel, with 50 mm thick polyester insulation with a density of 9 kg/m3 positioned between furring channels and one layer of 13 mm fire protective grade plasterboard fixed to furring channels; and (c) 105 mm thick glass wool insulation with a density of 7 kg/m3 positioned between studs; and (d) one layer of 13 mm fire protective grade plasterboard fixed to the outside face of the studs, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C6b. (4) Two leaves of 75 mm autoclaved aerated concrete wall panel with— a cavity not less than 30 mm between panels containing 50 mm glass wool insulation with a density of 11 kg/m3 (a); and (b) one layer of 10 mm plasterboard fixed to outside face of each panel, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C6c. (5) A 75 mm thick autoclaved aerated concrete wall panel with— (a) one layer of 10 mm moisture resistant plasterboard on one face; and (b) 28 mm metal furring channels and resilient mounts, 75 mm polyester insulation with a density of 9 kg/m3 and 13 mm fire-protective grade plasterboard fixed to the other face, has an Rw of not less than 50, if constructed as shown in Figure S28C6d. Note: Refer to the abovementioned figures directly from the BCA.	
S28C7	**Acceptable forms of construction for walls — timber and steel framing**	
CRA	(1) Acceptable forms of construction for timber and steel framing wall are set out in (2) to (11). (2) Two rows of 70 x 35 mm timber studs at 450 mm centres with— (a) an air gap not less than 20 mm between the rows of studs; and (b) 75 mm thick glass or mineral wool insulation with a density of 8 kg/m³ or 60 mm thick polyester insulation with a density of 11 kg/m³ positioned between one row of studs; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(c) two layers of 13 mm fire protective grade plasterboard or one layer of 6 mm fibre-cement sheet and one layer of 13 mm fire protective grade plasterboard, fixed to outside face of studs, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C7a.
(3) One row of 70 mm x 35 mm staggered timber studs, without noggings between adjacent studs, at not less than 450 mm centres, fixed to 90 mm x 35 mm wall plates with—
(a) 75 mm thick glass or mineral wool insulation with a minimum density of 8 kg/m³ positioned between studs; and
(b) two layers of 13 mm fire-protective grade plasterboard fixed to outside face of studs, has an Rw of not less than 50, if constructed as shown in Figure S28C7b.
(4) One row of 70 mm x 35 mm timber studs at not less than 600 mm centres with—
(a) 75 mm thick glass or mineral wool insulation with a minimum density of 8 kg/m³ positioned between studs; and
(b) two layers of 13 mm fire-protective grade plasterboard fixed to outside face of studs, has an Rw of not less than 45, if constructed as shown in Figure S28C7c.
(5) One row of 70 mm x 35 mm timber studs at not less than 450 mm centres with—
(a) 28 mm furring channels installed horizontally on one side; and
(b) two layers of 13 mm fire-protective plasterboard fixed on each face, has an Rw of not less than 45, if constructed as shown in Figure S28C7d.
(6) Two rows of 64 mm steel studs at 600 mm centres with—
(a) an air gap not less than 20 mm between the rows of studs; and
(b) 50 mm thick glass wool insulation or 60 mm thick polyester insulation with a density of 11 kg/m³ positioned between one row of studs; and
(c) two layers of 13 mm fire-protective grade plasterboard or one layer of 6 mm fibre-cement sheet and one layer of 13 mm fire-protective grade plasterboard, fixed to outside face of studs, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C7e.
(7) Two rows of 64 mm steel studs at 600 mm centres with—
(a) an air gap not less than 80 mm between the rows of studs; and
(b) 200 mm thick polyester insulation with a density of 14 kg/m3 positioned between studs; and
(c) one layer of 13 mm fire-protective grade plasterboard and one layer 13 mm plasterboard on one outside face and one layer of 13 mm fire-protective grade plasterboard on the other outside

	face, has an Rw + Ctr of not less than 50 and an Rw of not less than 50, if constructed as shown in Figure S28C7f. (8) One row of 92 mm steel studs at 600 mm centres with— (a) 50 mm thick glass wool insulation with a density of 11 kg/m3 or 60 mm thick polyester insulation with a density of 8 kg/m3, positioned between studs; and (b) ~~(b)~~ two layers of 13 mm fire-protective grade plasterboard or one layer of 6 mm fibre-cement sheet and one layer of 13 mm fire-protective grade plasterboard, fixed to each face, has an Rw of not less than 50, if constructed as shown in Figure S28C7g. (9) One row of 64 mm steel studs with 2 layers of 16 mm fire-protective grade plasterboard fixed to each face has an Rw of not less than 45, if constructed as shown in Figure S28C7h. (10) One row of 64 mm steel studs with— (a) one layer of 16 mm fire-protective grade plasterboard fixed to one face; and (b) 50 mm thick glass or mineral wool insulation with a density of 11 kg/m3 positioned between the studs; and (c) two layers of fire-protective grade plasterboard fixed to the other face, the inner layer being 16 mm thick and the outer layer being 13 mm, has an Rw of not less than 45, if constructed as shown in Figure S28C7i. (11) One row of 64 mm steel studs with two layers of 13 mm plasterboard on each face has an Rw of not less than 45, if constructed as shown in Figure S28C7j.	
S28C8	**Acceptable forms of construction for floors — concrete**	
CRA	(1) Acceptable forms of construction for concrete floors are set out in (2) to (4). (2) 150 mm thick concrete slab with— (a) 28 mm metal furring channels and isolation mounts fixed to underside of slab, at 600 mm centres; and (b) 65 mm thick polyester insulation with a density of 8 kg/m3, positioned between furring channels; and (c) one layer of 13 mm plasterboard fixed to furring channels, has an Rw + Ctr of not less than 50, an Ln,w of not more than 62 and an Rw of not less than 50, if constructed as shown in Figure S28C8a. (3) 200 mm thick concrete slab with carpet on underlay has an Rw + Ctr of not less than 50, an Ln,w of not more than 62 and an Rw of not less than 50, if constructed as shown in Figure S28C8b. (4) 100 mm thick concrete slab has an Rw + Ctr of not less than 45 and an Rw of not less than 45, if constructed as shown in Figure S28C8c.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S28C9	Acceptable forms of construction for floors — autoclaved aerated concrete	
CRA	(1) An acceptable form of construction for autoclaved aerated concrete floors is set out in (2). (2) 75 mm thick autoclaved aerated concrete floor panel with— (a) 8 mm ceramic tiles with flexible adhesive and waterproof membrane, located above the slab; and (b) timber joists at 600 mm centres; and (c) R1.5 glass wool insulation positioned between timber joists; and (d) 28 mm metal furring channels and resilient mounts fixed to underside of joists; and (e) two layers of 13 mm plasterboard fixed to furring channels, has an Rw + Ctr of not less than 50, an Ln,w of not more than 62 and an Rw of not less than 50, if constructed as shown in Figure S28C9.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

S28C10	Acceptable forms of construction for floors — timber	
CRA	(1) Acceptable forms of construction for timber floors are set out in (2) to (4). (2) 19 mm thick particleboard floor sheeting with— (a) 190 mm x 45 mm timber joists at 450 mm centres; and (b) R2.5 glass or mineral wool insulation positioned between timber joists; and (c) 28 mm metal furring channels and isolation mounts fixed to underside of joists, isolation mounts to be of natural rubber with a dynamic factor of not more than 1.1 and static deflection of not less than 3 mm at actual operating load; and (d) two layers of 16 mm fire-protective grade plasterboard fixed to furring channels, has an Rw + Ctr of not less than 50, an Ln,w of not more than 62 and an Rw of not less than 50, if constructed as shown in Figure S28C10a. (3) Timber flooring with minimum 8.5 kg/m² mass, over 19 mm thick particleboard floor sheeting with— (a) 190 mm x 45 mm timber joists at not less than 450 mm centres; and (b) R2.5 glass or mineral wool insulation positioned between timber joists; and (c) 28 mm metal furring channels fixed to underside of joists at 600 mm centres by clip or mount; and (d) one layer of 13 mm acoustic grade plasterboard fixed to furring channels, has an Rw + C of not less than 45 and an Rw of not less than 45, if constructed as shown in Figure S28C10b.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Specification 29 – Impact sound – test of equivalence		
Clause	Reference	Comment
S29C2	Construction to be tested	
CRA	(1) The test is conducted on a specimen of prototype wall construction and on a specimen of one or other of the constructions specified in S28C4 to S28C7. (2) The testing of a construction specified in S28C4 to S28C7 need not be repeated for subsequent comparisons provided complete records of the results, the test equipment and the technique of testing are kept so that identical equipment can be employed and an identical technique can be adopted in the testing of specimens of prototype wall construction.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
S29C3	Method	
CRA	(1) The wall constructions to be compared must be tested in accordance with AS 1191. (2) A horizontal steel platform 510 mm x 460 mm x 10 mm thick must be placed with one long edge in continuous and direct contact with the wall to be tested on the side of the wall on which the impact sound is to be generated. (3) A tapping machine complying with ISO 140/6 — 1998 (E) must be mounted centrally on the steel platform. (4) The sound transmission through the wall must be determined in accordance with AS 1191 except that the tapping machine as mounted on the steel platform must be used as the source of sound. (5) The impact sound pressure levels measured in the receiving room must be converted into normalised levels using a reference equivalent absorption area of 10 m2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Section G – Ancillary Provisions		
Clause	Reference	Comment
NSW G1D5	Provision for cleaning windows	
CRA	(1) A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level. (2) A building satisfies (1) where— (a) the windows can be cleaned wholly from within the building; or (b) 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Provision for windows cleaning methods to be provided.

G1D3	Refrigerated chambers, strong-rooms and vaults	
N/A	(1) A refrigerated or cooling chamber, strongroom or vault that is of sufficient size for a person to enter must have— (a) a door which is capable of being opened by hand from inside without a key; and (b) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and (c) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the interior lights required by (b) are switched on; and (d) an alarm that is— (i) located outside but controllable only from within the chamber, strongroom or vault; and (ii) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90 dB(A) when measured 3 m from the sounding device. (2) A door required by (1)(a) in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.	Not applicable – This clause is not applicable to this project. No action required. No cool rooms are identified.

Part G3 - Atrium construction		
Clause	Reference	Comment
G3D1	Application of Part	
N/A	This Part does not apply to an atrium which— (a) connects only 2 storeys; or (b) connects only 3 storeys if— (i) each storey is provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 throughout; and (ii) one of those storeys is situated at a level at which there is direct egress to a road or open space	Not applicable – This clause is not applicable to this project. No action required. No atrium with more than 3 storeys are proposed for this development, thus compliance with this clause is not required.

Part G5 - Construction in bushfire prone areas		
Clause	Reference	Comment
NSW G5D2	Application of Part	
Noted	The Deemed-to-Satisfy Provisions of this Part apply in a designated bushfire prone area to— (a) a Class 2 or 3 building; or (b) a Class 4 part of a building; or	This clause is for informational purposes only, and no additional action is required.

	(c) a Class 9 building that is a special fire protection purpose located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL—12.5, determined in accordance with Planning for Bush Fire Protection; or (d) a Class 10a building or deck immediately adjacent or connected to a building or part of a type in (a), (b) or (c).	
NSW G5D3	**Protection — residential buildings**	
N/A	In a designated bushfire prone area, a Class 2 building, a Class 3 building, a Class 4 part of a building or a Class 10a building or deck immediately adjacent or connected to such a building or part, must comply with the following— (a) AS 3959 except— (i) as amended by Planning for Bush Fire Protection; and (ii) for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ), buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or (b) the requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or (c) the requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.	Not applicable – This clause is not applicable to this project. No action required. It is unlikely that the parcel of land is in a bushfire fire prone area. Bushfire Consultant to assess and confirm compliance.
NSW G5D4	**Protection — certain Class 9 Buildings**	
N/A	In a designated bushfire prone area, a Class 9 building that is a special fire protection purpose or a Class 10a building or deck immediately adjacent or connected to a such a building or part, must comply with— (a) for a Class 9 building that is special fire protection purpose, Specification 43 except as amended by Planning for Bush Fire Protection; or (b) for a Class 10a building or deck immediately adjacent or connected to a Class 9 building that is a special fire protection purpose— (i) AS 3959 except as amended by Planning for Bush Fire Protection; and (ii) S43C13; or	Not applicable – This clause is not applicable to this project. No action required. It is unlikely that the parcel of land is in a bushfire fire prone area. Bushfire Consultant to assess and confirm compliance.

(c) the requirements of (a) or (b) above as modified by the development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

Part G6 - Occupiable outdoor areas		
Clause	Reference	Comment
G6D1	**Application of Part**	
Noted	(1) 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 NCC Volume One. (2) 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. (3) Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to— (a) 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 (b) an occupiable outdoor area with an area less than 10m2.	This clause is for informational purposes only, and no additional action is required. This part is applicable to Level 01 and Level 18 Communal Open Space, which are not directly connected to the road, thus constituting an Occupiable Outdoor Area, therefore compliance with this part is required.
G6D2	**Fire hazard properties**	
CRA	(1) Subject to (2), a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element. (2) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: (a) Average specific extinction area. (b) Smoke-Developed Index. (c) Smoke development rate. (d) Smoke growth rate index (SMOGRARC).	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D3	**Fire separation**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of C3D8, C3D9 and 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.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

G6D4	**Provision for escape**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D5	**Construction of exits**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D6	**Fire fighting equipment**	
CRA	Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D7	**Lift installations**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area. Note: BCA Clause G6D7 regarding Outdoor Occupiable areas may impact the requirement for Stretcher facilities.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D8	**Visibility in an emergency, exit signs and warning systems**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
G6D9	**Light and ventilation**	
CRA	For the purposes of the Deemed-to-Satisfy Provisions of F46D5, F46D9 and F46D10, a reference to a room includes an occupiable outdoor area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Section I – Special Use Buildings		
Part I1 – Class 9 Buildings		
Clause	Reference	Comment
I1D2	**Separation**	
CRA	A theatre, public hall or the like must— (a) have a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17; or (b) have the stage, backstage area and accessible under stage area separated from the audience by a proscenium wall in accordance with I1D3.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Community Multipurpose Halls will be provided with a full sprinkler (AS2118.1) system.
I1D3	**Proscenium wall construction**	
N/A	A proscenium wall must comply with Specification 32.	Not applicable – This clause is not applicable to this project. No action required.
I1D4	**Seating area**	
N/A	In a seating area— (a) the gradient of the floor surface must not be steeper than 1 in 8, or the floor must be stepped so that— (i) a line joining the nosings of consecutive steps does not exceed an angle of 30° to the horizontal; and (ii) the height of each step in the stepped floor is not more than 600 mm; and (iii) the height of any opening in such a step is not more than 125 mm; and (b) if an aisle divides the stepped floor and the difference in level between any 2 consecutive steps— (i) exceeds 230 mm but not 400 mm — an intermediate step must be provided in the aisle; and (ii) exceeds 400 mm — 2 equally spaced intermediate steps must be provided in the aisle; and (iii) the going of intermediate steps must be not less than 270 mm and such as to provide as nearly as practicable equal treads throughout the length of the aisle; and (c) the clearance between rows of fixed seats used for viewing performing arts, sport or recreational activities must be not less than— (i) 300 mm if the distance to an aisle is not more than 3.5 m; or (ii) 500 mm if the distance to an aisle is more than 3.5 m.	Not applicable – This clause is not applicable to this project. No action required.

I1D5	Exits from stages	
N/A	(1) The path of travel to an exit from a stage or performing area must not pass through the proscenium wall if the stage area is separated from the audience area with a proscenium wall. (2) Required exits from backstage and under-stage areas must be independent of those provided for the audience area.	Not applicable – This clause is not applicable to this project. No action required.
I1D6	**Access to platforms and lofts**	
N/A	A stairway that provides access to a service platform, rigging loft, or the like, must comply with AS 1657	Not applicable – This clause is not applicable to this project. No action required.
I1D7	**Aisle lights**	
N/A	In every enclosed Class 9b building, where in any part of the auditorium, the general lighting is dimmed or extinguished during public occupation and the floor is stepped or is inclined at a slope steeper than 1 in 12, aisle lights must be provided to illuminate the full length of the aisle and tread of each step.	Not applicable – This clause is not applicable to this project. No action required.

Section J – Energy Efficiency

Section J1 – Energy Efficiency performance requirements

Clause	Reference	Comment
J1V1	**NABERS Energy (Verification Methods)**	
Noted	(1) For a Class 5 building, compliance with J1P1 is verified when— (a) a minimum 5.5-star NABERS Energy base building Commitment Agreement is obtained; and (b) the energy model required for (a) demonstrates— (i) the base building's greenhouse gas emissions are not more than 67% of the 5.5-star level when excluding— (A) tenant supplementary heating and cooling systems; and (B) external lighting; and (C) carpark services; and (ii) a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and (c) the building complies with the additional requirements in Specification 33. (2) For a Class 2 building, other than sole-occupancy units, compliance with J1P1 is verified when—	This clause is for informational purposes only, and no additional action is required.

(a) a minimum 4-star NABERS Energy for Apartment Buildings Commitment Agreement is obtained; and
(b) air-conditioning, which operates not less than 18 hours per day, is provided to all enclosed common lift lobbies and corridors; and
(c) the energy model required for (a) demonstrates—
(i) the greenhouse gas emissions of the services are less than 90% of the 5-star level; and
(ii) a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of the air-conditioned common area occupied zones, excluding indoor swimming pool chambers, for not less than 98% of the annual hours of operation of the building; and
(iii) the space temperature in any indoor swimming pool chamber is maintained at 2ºC above the pool temperature during occupied hours of not less than 12 hours per day; and
(d) the building complies with the additional requirements in Specification 33.
(3) For a Class 3 building, compliance with J1P1 is verified when—
(a) a minimum 4-star NABERS Energy for Hotels Commitment Agreement is obtained; and
(b) the operating hours of the services are not less than 12 hours per day in bedrooms, dining rooms and conference facilities, 24 hours per day in corridors and foyers and 18 hours per day in back-of-house areas; and
(c) the energy model required for (a) demonstrates that—
(i) the greenhouse gas emissions of the services are less than 70% of the 5-star level; and
(ii) a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of occupied zones, excluding indoor swimming pool chambers, for not less than 98% of the annual hours of operation of the building; and
(iii) the space temperature in any indoor swimming pool chamber is maintained at 2ºC above the pool temperature during occupied hours of not less than 12 hours per day; and
(d) the building complies with the additional requirements in Specification 33.
(4) For a Class 6 shopping centre, compliance with J1P1 is verified when—
(a) a minimum 4.5-stars NABERS Energy for Shopping Centres Commitment Agreement is obtained; and
(b) the building has:
(i) an air-conditioned common area of not less than 20% of the gross lettable area; and
(ii) a gross lettable area greater than 15 000 m2; and
(c) the energy model required for (a) demonstrates—

	(i) the greenhouse gas emissions of the services covered within the scope of NABERS Energy for Shopping Centres ratings are less than 80% of the 4.5-star level; and (ii) a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of air-conditioned spaces within the scope of the rating for not less than 98% of the annual hours of operation the building; and (d) the building complies with the additional requirements in Specification 33. (5) The calculation method for (1), (2), (3) and (4) must comply with ANSI/ASHRAE Standard 140.	
J1V2	**Green Star (Verification Methods)**	
Noted	(1) For a Class 3, 5, 6, 7, 8 or 9 building, or common area of a Class 2 building, compliance with J1P1 is verified when— (a) the building complies with the simulation requirements, and is registered, for a Green Star – Design & As-Built or Green Star Buildings rating; and (b) the annual greenhouse gas emissions of the proposed building are less than 90% of the annual greenhouse gas emissions of the reference building; and (c) in the proposed building, a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and (d) the building complies with the additional requirements in Specification 33. (2) The calculation method used for (1) must comply with ANSI/ASHRAE Standard 140.	This clause is for informational purposes only, and no additional action is required.
J1V3	**Verification using a reference building**	
Noted	(1) For a Class 3, 5, 6, 7, 8 or 9 building or common area of a Class 2 building, compliance with J1P1 is verified when— (a) it is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when— (i) the proposed building is modelled with the proposed services; and (ii) the proposed building is modelled with the same services as the reference building; and (b) in the proposed building, a thermal comfort level of between a Predicted Mean Vote of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building; and (c) the building complies with the additional requirements in Specification 33. (2) The annual greenhouse gas emissions of the proposed building may be offset by—	This clause is for informational purposes only, and no additional action is required.

	(a) renewable energy generated and used on site; and (b) another process such as reclaimed energy, used on site. (3) The calculation method used for (1) and (2) must comply with— (a) ANSI/ASHRAE Standard 140; and (b) Specification 34	
J1V4	**Building envelope sealing**	
Noted	(1) Compliance with J1P1(e) and J1P2 is verified for building envelope sealing when the envelope is sealed at an air permeability rate, tested in accordance with Method 1 of AS/NZS ISO 9972, of not more than— (a) for a Class 2 building or a Class 4 part of a building, 10 $m^3/hr.m^2$ at 50 Pa reference pressure; or (b) for a Class 5, 6, 8 or 9a or 9b building, other than a ward area, in climate zones 1, 7 and 8, 5 $m^3/hr.m^2$ at 50 Pa reference pressure; or (c) for a Class 3 or 9c building, or a Class 9a ward area in climate zones 1, 3, 4, 6, 7 and 8, 5 $m^3/hr.m^2$ at 50 Pa reference pressure. (2) In a sole-occupancy unit of a Class 2 building or a Class 4 part of a building, where an air permeability rate of not more than 5 m3/hr.m2 at 50 Pa reference pressure is achieved— (a) a mechanical ventilation system must be provided that— (i) can be manually overridden; and (ii) provides outdoor air, either— (A) continuously; or (B) intermittently, where the system has controls that enable operation for not less than 25 per cent of each 4 hour segment; and (iii) provides a flow rate not less than that achieved with the following formula: , where— (A) Q = the required air flow rate (L/s); and (B) A = the total area of the sole-occupancy unit of a Class 2 or Class 4 part of a building (m2); and (C) N = the number of bedrooms in the sole-occupancy unit of a Class 2 or Class 4 part of a building; and (D) p = the fraction of time within each 4 hour segment that the system is operational; and (b) any space with a solid-fuel burning combustion appliance must be ventilated with permanent openings directly to outside with a free area of not less than half of the cross-sectional area of the appliance's flue; and (c) any space with a gas-fueled combustion appliance must be ventilated in accordance with—	This clause is for informational purposes only, and no additional action is required.

	(i) clause 6.4 of AS/NZS 5601.1; and (ii) clause 6.4.5 of AS/NZS 5601.1. (3) For the purposes of (2)(c), the volume of the space is considered to be 1 m3 for determining ventilation requirements.	
J1V5	**Verification using a reference building for a Class 2 sole-occupancy unit**	
Noted	(1) Compliance with J1P2 is verified when each Class 2 sole-occupancy unit of a proposed building— (a) in climate zones 3, 4, 5, 6, 7 and 8, has a heating load less than or equal to— (i) that of a reference building; and (ii) 120% of J1P2(1); and (b) in climate zones 1, 2, 3, 4 and 5, has a cooling load less than or equal to— (i) that of a reference building; and (ii) 120% of J1P2(2); and (c) complies with the additional requirements in Specifications 33 and 45 as applicable. (2) Compliance with J1P3 is determined when the energy value of the domestic services, including all centralised domestic services infrastructure, of a proposed building is less than that of a reference building when— (a) each sole-occupancy unit of a reference building has— (i) a 3-star ducted air-to-air heat pump, rated under the 2019 GEMS determination, heating all spaces that are provided with heating; and (ii) a 3-star ducted heat pump, rated under the 2019 GEMS determination, cooling all spaces that are provided with cooling; and (iii) a 5-star instantaneous gas water heater, rated under the 2017 GEMS determination, providing all domestic heated water; and (iv) a lighting power density of 4 W/m2 serving all internal spaces that are provided with artificial lighting; and (b) the proposed building and a reference building comply with the additional requirements in Specifications 33 and 45 as applicable. (3) The calculation method used for (1) and (2) must— (a) comply with ANSI/ASHRAE Standard 140; and (b) not be house energy rating software.	This clause is for informational purposes only, and no additional action is required.

Part J2 – Energy Efficiency		
Clause	Reference	Comment
NSW J2D2	Application of Section J	
Noted	(1) For a Class 3 and 5 to 9 building, Performance Requirement NSW J1P1 is satisfied by complying with— (a) Part J4, for the building fabric; and (b) Part J5, for building sealing; and (c) Part J6, for air-conditioning and ventilation; and (d) Part J7, for artificial lighting and power; and (e) Part J8, for heated water supply and swimming pool and spa pool plant; and (f) J9D3, for facilities for energy monitoring. (2) For a sole-occupancy unit of a Class 2 building or a Class 4 part of a building, Performance Requirement NSW J1P5 is satisfied by complying with— (a) J3D5 and J3D6, for thermal breaks; and (b) J4D3, for general thermal construction; and (c) J3D10(3), J3D10(5) and J3D10(6), for floor edge insulation. (3) For a Class 2 building or a Class 4 part of a building, Performance Requirement NSW J1P6 is satisfied by complying with Part J5 for building sealing. (4) For a Class 2 building or a Class 4 part of a building, Performance Requirement NSW J1P7 is satisfied by complying with— (a) Part J6, for air-conditioning and ventilation; and (b) J8D2, for heated water supply; and (c) J9D3, for facilities for energy monitoring. (5) For a Class 2 to 9 building, Performance Requirement NSW J1P4 is satisfied by complying with J9D4 and J9D5.	This clause is for informational purposes only, and no additional action is required.

Part J3 – Elemental provisions for a sole-occupancy unit of a Class 2 building or Class 4 part of a building.		
Clause	Reference	Comment
J3D5	**Roof thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building**	
CRA	(1) A roof that— (a) has metal sheet roofing directly fixed to metal purlins, metal rafters or metal battens; and (b) does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens, must have a thermal break, consisting of a material with an R-Value of greater than or equal to R0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens. (2) The requirements of (1) do not apply to roofs constructed using insulated sandwich panels.T	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J3D6	**Wall thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building**	
CRA	(1) A metal-framed wall that forms part of the building envelope must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed at all points of contact between the external cladding and the metal frame if the wall— (a) does not have a wall lining or has a wall lining that is fixed directly to the same metal frame; and (b) is clad with weatherboards, fibre-cement or the like, or metal sheeting fixed to a metal frame. (2) The requirements of (1) do not apply to walls constructed using insulated sandwich panels.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
NSW J3D10	**Floors of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building**	
CRA	NSW (1) This clause does not apply in NSW. (2) This clause does not apply in NSW. (3) A concrete slab-on-ground with an in-slab or in-screed heating or cooling system must have insulation with an RValue at least 1.0 installed around the vertical edge of tis perimeter. (4) This clause does not apply in NSW. (5) Insulation required by (3), (4)(a)(i) and (4)(b)(i) must— (a) be water resistant; and (b) be continuous from the adjacent finished ground level— (i) to a depth of not less than 300 mm; or (ii) for at least the full depth of the vertical edge of the concrete slab-on-ground.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(6) The requirements of (3) do not apply to an in-screed heating or cooling system used solely in a bathroom, amenity area or the like	
Part J4 – Building Fabric		
Clause	**Reference**	**Comment**
NSW J4D3	**Thermal construction — general**	
CRA	(1) Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it— (a) abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and (b) forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and (c) does not affect the safe or effective operation of a service or fitting. (2) Where required, reflective insulation must be installed with— (a) the necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and (b) the reflective insulation closely fitted against any penetration, door or window opening; and (c) the reflective insulation adequately supported by framing members; and (d) each adjoining sheet of roll membrane being— (i) overlapped not less than 50 mm; or (ii) taped together. (3) Where required, bulk insulation must be installed so that— (a) it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and (b) in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm. (4) Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification 36. (5) The required Total R-Value and Total System U-Value, including allowance for thermal bridging, must be— (a) calculated in accordance with AS/NZS 4859.2 for a roof or floor; or (b) determined in accordance with Specification 37 for wall-glazing construction; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) determined in accordance with Specification 39 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.	
J4D4	**Roof and ceiling construction**	
CRA	(1) A roof or ceiling must achieve a Total R-Value greater than or equal to— (a) in climate zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and (b) in climate zone 6, R3.2 for a downward direction of heat flow; and (c) in climate zone 7, R3.7 for an upward direction of heat flow; and (d) in climate zone 8, R4.8 for an upward direction of heat flow. (2) In climate zones 1, 2, 3, 4, 5, 6 and 7, the solar absorptance of the upper surface of a roof must be not more than 0.45.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J4D6	**Walls and glazing**	
CRA	(1) The Total System U-Value of wall-glazing construction, including wall-glazing construction which wholly or partly forms the envelope internally, must not be greater than— (a) for a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, U2.0; and (b) for a Class 3 or 9c building or a Class 9a ward area— (i) in climate zones 1, 3, 4, 6 or 7, U1.1; or (ii) in climate zones 2 or 5, U2.0; or (iii) in climate zone 8, U0.9. (2) The Total System U-Value of display glazing must not be greater than U5.8. (3) The Total System U-Value of wall-glazing construction must be calculated in accordance with Specification 37. (4) Wall components of a wall-glazing construction must achieve a minimum Total R-Value of— (a) where the wall is less than 80% of the area of the wall-glazing construction, R1.0; or (b) where the wall is 80% or more of the area of the wall-glazing construction, the value specified in NSW Table J4D6a. (5) The solar admittance of externally facing wall-glazing construction, excluding wall-glazing construction which is wholly internal, must not be greater than— (a) for a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, the values specified in Table J4D6b; and (b) for a Class 3 or 9c building or a Class 9a ward area, the values specified in NSW Table J4D6c.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(6) The solar admittance of a wall-glazing construction must be calculated in accordance with Specification 37. (7) The Total system SHGC of display glazing must not be greater than 0.81 divided by the applicable shading factor specified in S37C7.	
J4D7	**Floors**	
CRA	(1) A floor must achieve the Total R-Value specified in Table J4D7. (2) For the purposes of (1), a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0, except— (a) in climate zone 8; or (b) a Class 3, Class 9a ward area or Class 9b building in climate zone 7 that has a floor area to floor perimeter ratio of less than or equal to 2. (3) A floor must be insulated around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0 when the floor— (a) is a concrete slab-on-ground in climate zone 8; or (b) has an in-slab or in-screed heating or cooling system, except were used solely in a bathroom, amenity area or the like. (4) Insulation required by (3) for a concrete slab-on-ground must— (a) be water resistant; and (b) be continuous from the adjacent finished ground level— (i) to a depth not less than 300 mm; or (ii) for the full depth of the vertical edge of the concrete slab-on-ground.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part J5 – Building Sealing		
Clause	**Reference**	**Comment**
J5D5	**Windows and doors**	
CRA	(1) A door, openable window or the like must be sealed— (a) when forming part of the envelope; or (b) in climate zones 4, 5, 6, 7 or 8. (2) The requirements of (1) do not apply to— (a) a window complying with AS 2047; or (b) a fire door or smoke door; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. (3) A seal to restrict air infiltration— (a) for the bottom edge of a door, must be a draft protection device; and (b) for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like. (4) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than— (a) where the conditioned space has a floor area of not more than 50 m2; or (b) where a café, restaurant, open front shop or the like has— (i) a 3 m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and (ii) at all other entrances to the café, restaurant, open front shop or the like, self-closing doors. (5) A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like.	
J5D6	**Exhaust fans**	
CRA	An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving— (a) a conditioned space; or (b) a habitable room in climate zones 4, 5, 6, 7 or 8.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J5D7	**Construction of ceilings, walls and floors**	
CRA	(1) Ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with (2)— (a) when forming part of the envelope; or (b) in climate zones 4, 5, 6, 7 or 8. (2) Construction required by (1) must be— (a) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or (b) sealed at junctions and penetrations with— (i) close fitting architrave, skirting or cornice; or (ii) expanding foam, rubber compressible strip, caulking or the like.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(3) The requirements of (1) do not apply to openings, grilles or the like required for smoke hazard management.	
J5D8	**Evaporative coolers**	
CRA	An evaporative cooler must be fitted with a self-closing damper or the like— (a) when serving a heated space; or (b) in climate zones 4, 5, 6, 7 or 8.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part J6 – Air-conditioning and ventilation		
Clause	**Reference**	**Comment**
J6D3	**Air-conditioning system control**	
CRA	(1) An air-conditioning system— (a) must be capable of being deactivated when the building or part of a building served by that system is not occupied; and (b) when serving more than one air-conditioning zone or area with different heating or cooling needs, must— (i) thermostatically control the temperature of each zone or area; and (ii) not control the temperature by mixing actively heated air and actively cooled air; and (iii) limit reheating to not more than— (A) for a fixed supply air rate, a 7.5 K rise in temperature; and (B) for a variable supply air rate, a 7.5 K rise in temperature at the nominal supply air rate but increased or decreased at the same rate that the supply air rate is respectively decreased or increased; and (c) which provides the required mechanical ventilation, other than in climate zone 1 or where dehumidification control is needed, must have an outdoor air economy cycle if the total air flow rate of any airside component of an air conditioning system is greater than or equal to the flow rates in Table J6D3; and (d) which contains more than one water heater, chiller or coil, must be capable of stopping the flow of water to those not operating; and (e) with an airflow of more than 1000 L/s, must have a variable speed fan when its supply air quantity is capable of being varied; and (f) when serving a sole-occupancy unit in a Class 3 building, must not operate when any external door of the sole-occupancy unit that opens to a balcony or the like, is open for more than one minute; and	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(g) must have the ability to use direct signals from the control components responsible for the delivery of comfort conditions in the building to regulate the operation of central plant; and
(h) must have a control dead band of not less than 2°C, except where a smaller range is required for specialised applications; and
(i) must be provided with balancing dampers and balancing valves, as required to meet the needs of the system at its maximum operating condition, that ensure the maximum design air or fluid flow is achieved but not exceeded by more than 15% above design at each—
(i) component; or
(ii) group of components operating under a common control in a system containing multiple components; and
(j) must ensure that each independently operating space of more than 1 000 m2 and every separate floor of the building has provision to terminate airflow independently of the remainder of the system sufficient to allow for different operating times; and
(k) must have automatic variable temperature operation of heated water and chilled water circuits; and
(l) when deactivated, must close any motorised outdoor air or return air damper that is not otherwise being actively controlled.
(2) When two or more air-conditioning systems serve the same space they must use control sequences that prevent the systems from operating in opposing heating and cooling modes.
(3) Time switches — the following applies:
(a) A time switch must be provided to control—
(i) an air-conditioning system of more than 2 kWr; and
(ii) a heater of more than 1 kWheating used for air-conditioning.
(b) The time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days.
(c) The requirements of (a) and (b) do not apply to—
(i) an air-conditioning system that serves—
(A) only one sole-occupancy unit in a Class 2, 3 or 9c building; or
(B) a Class 4 part of a building; or
(ii) a conditioned space where air-conditioning is needed for 24 hour continuous use.

J6D4	Mechanical ventilation system control	
CRA	(1) General — A mechanical ventilation system, including one that is part of an air-conditioning system, except where the mechanical system serves only one sole-occupancy unit in a Class 2 building or serves only a Class 4 part of a building, must— (a) be capable of being deactivated when the building or part of the building served by that system is not occupied; and (b) when serving a conditioned space, except in periods when evaporative cooling is being used— (i) where specified in Table J6D4, have— (A) an energy reclaiming system that preconditions outdoor air at a minimum sensible heat transfer effectiveness of 60%; or (B) demand control ventilation in accordance with AS 1668.2 if appropriate to the application; and (ii) not exceed the minimum outdoor air quantity required by Part F6 by more than 20%, except where— (A) additional unconditioned outdoor air is supplied for free cooling; or (B) additional mechanical ventilation is needed to balance the required exhaust or process exhaust; or (C) an energy reclaiming system preconditions all the outdoor air; and (c) for an airflow of more than 1000 L/s, have a variable speed fan unless the downstream airflow is required by Part F6 to be constant. (2) Exhaust systems — An exhaust system with an air flow rate of more than 1000 L/s must be capable of stopping the motor when the system is not needed, except for an exhaust system in a sole-occupancy unit in a Class 2, 3 or 9c building. (3) Carpark exhaust systems — Carpark exhaust systems must have a control system in accordance with— (a) clause 4.11.2 of AS 1668.2; or (b) clause 4.11.3 of AS 1668.2. (4) Time switches — The following applies: (a) A time switch must be provided to a mechanical ventilation system with an air flow rate of more than 1000 L/s. (b) The time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days. (c) The requirements of (a) and (b) do not apply to— (i) a mechanical ventilation system that serves—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(A) only one sole-occupancy unit in a Class 2, 3 or 9c building; or (B) a Class 4 part of a building; or (ii) a building where mechanical ventilation is needed for 24 hour occupancy	
J6D5	**Fans and duct systems**	
CRA	(1) Fans, ductwork and duct components that form part of an air-conditioning system or mechanical ventilation system must— (a) separately comply with (2), (3), (4) and (5); or (b) achieve a fan motor input power per unit of flowrate lower than the fan motor input power per unit of flowrate achieved when applying (2), (3), (4) and (5) together. (2) Fans: (a) Fans in systems that have a static pressure of not more than 200 Pa must have an efficiency at the full load operating point not less than the efficiency calculated with the following formula: $n_{min} = 0.13 \times \ln(p) - 0.3$ (a) In the formula at (a)— (i) n_{min} = the minimum required system static efficiency for installation type A or C or the minimum required system total efficiency installation type B or D; and (ii) p = the static pressure of the system (Pa); and (iii) ln = natural logarithm. (b) Fans in systems that have a static pressure above 200 Pa must have an efficiency at the full load operating point not less than the efficiency calculated with the following formula: $n_{min} = 0.85 \times (a \times \ln(P) - b + N) / 100$ (c) In the formula at (c) — (i) n_{min} = the minimum required system static efficiency for installation type A or C or the minimum required system total efficiency installation type B or D; and (ii) p = the motor input power of the fan; and (iii) N = the minimum performance grade obtained from Table J6D5a; and (iv) a = regression coefficient a, obtained from Table J6D5b; and (v) b = regression coefficient b, obtained from Table J6D5c; and (vi) ln = natural logarithm. (d) The requirements of (a), (b), (c) and (d) do not apply to fans that need to be explosion proof. (3) Ductwork:	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(a) The pressure drop in the index run across all straight sections of rigid ductwork and all sections of flexible ductwork must not exceed 1 Pa/m when averaged over the entire length of straight rigid duct and flexible duct. The pressure drop of flexible ductwork sections may be calculated as if the flexible ductwork is laid straight.
(b) Flexible ductwork must not account for more than 6 m in length in any duct run.
(c) The upstream connection to ductwork bends, elbows and tees in the index run must have an equivalent diameter to the connected duct.
(d) Turning vanes must be included in all rigid ductwork elbows of 90° or more acute than 90° in the index run except where—
(i) the inclusion of turning vanes presents a fouling risk; or
(ii) a long radius bend in accordance with AS 4254.2 is used.
(4) Ductwork components in the index run:
(a) The pressure drop across a coil must not exceed the value specified in Table J6D5d.
(b) A high efficiency particulate arrestance (HEPA) air filter must not exceed the higher of—
(i) a pressure drop of 200 Pa when clean; or
(ii) the filter design pressure drop when clean at an air velocity of 1.5 m/s.
(c) Any other air filter must not exceed—
(i) the pressure drop specified in Table J6D5e when clean; or
(ii) the filter design pressure drop when clean at an air velocity of 2.5 m/s.
(d) The pressure drop across intake louvres must not exceed the higher of—
(i) for single stage louvres, 30 Pa; and
(ii) for two stage louvres, 60 Pa; and
(iii) for acoustic louvres, 50 Pa; and
(iv) for other non-weatherproof louvres, 30 Pa.
(e) The pressure drop across a variable air volume box, with the damper in the fully open position, must not exceed—
(i) for units with electric reheat, 100 Pa; and
(ii) for other units, 25 Pa not including coil pressure losses.
(f) Rooftop cowls must not exceed a pressure drop of 30 Pa.
(g) Attenuators must not exceed a pressure drop of 40 Pa.
(h) Fire dampers must not exceed a pressure drop of 15 Pa when open.

	(i) Balancing and control dampers in the index run must not exceed a pressure drop of 25 Pa when in the fully open position. (j) Supply air diffusers and grilles must not exceed a pressure drop of 40 Pa. (k) Exhaust grilles must not exceed a pressure drop of 30 Pa. (l) Transfer ducts must not exceed a pressure drop of 12 Pa. (m) Door grilles must not exceed a pressure drop of 12 Pa. (n) Active chilled beams must not exceed a pressure drop of 150 Pa. (5) The requirements of (1), (2), (3) and (4) do not apply to— (a) fans in unducted air-conditioning systems with a supply air capacity of less than 1000 L/s; and (b) smoke spill fans, except where also used for air-conditioning or ventilation; and (c) the power for process-related components; and (d) kitchen exhaust systems	
J6D6	**Ductwork insulation**	
CRA	(1) Ductwork and fittings in an air-conditioning system must be provided with insulation— (a) complying with AS/NZS 4859.1; and (b) having an insulation R-Value greater than or equal to— (i) for flexible ductwork, 1.0; or (ii) for cushion boxes, that of the connecting ductwork; or (iii) that specified in Table J6D6. (2) Insulation must— (a) be protected against the effects of weather and sunlight; and (b) be installed so that it— (i) abuts adjoining insulation to form a continuous barrier; and (ii) maintains its position and thickness, other than at flanges and supports; and (c) when conveying cooled air— (i) be protected by a vapour barrier on the outside of the insulation; and (ii) where the vapour barrier is a membrane, be installed so that adjoining sheets of the membrane— (A) overlap by at least 50 mm; and (B) are bonded or taped together. (3) The requirements of (1) do not apply to— (a) ductwork and fittings located within the only or last room served by the system; or (b) fittings that form part of the interface with the conditioned space; or	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(c) return air ductwork in, or passing through, a conditioned space; or (d) ductwork for outdoor air and exhaust air associated with an air-conditioning system; or (e) the floor of an in-situ air-handling unit; or (f) packaged air conditioners, split systems, and variable refrigerant flow air-conditioning equipment complying with MEPS; or (g) flexible fan connections. (4) For the purposes of (1), (2) and (3), fittings— (a) include non-active components of a ductwork system such as cushion boxes; and (b) exclude active components such as air-handling unit components.	
J6D7	**Ductwork ceiling**	
CRA	Ductwork in an air-conditioning system with a capacity of 3000 L/s or greater, not located within the only or last room served by the system, must be sealed against air loss in accordance with the duct sealing requirements of AS 4254.1 and AS 4254.2 for the static pressure in the system.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J6D8	**Pump systems**	
CRA	(1) General — Pumps and pipework that form part of an air-conditioning system must either— (a) separately comply with (2), (3) and (4); or (b) achieve a pump motor power per unit of flowrate lower than the pump motor power per unit of flowrate achieved when applying (2), (3) and (4) together. (2) Circulator pumps — A glandless impeller pump, with a rated hydraulic power output of less than 2.5 kW and that is used in closed loop systems must have an energy efficiency index (EEI) not more than 0.27 calculated in accordance with European Union Commission Regulation No. 622/2012. (3) Other pumps — Pumps that are in accordance with Articles 1 and 2 of European Union Commission Regulation No. 547/2012 must have a minimum efficiency index (MEI) of 0.4 or more when calculated in accordance with European Union Commission Regulation No. 547/2012. (4) Pipework — Straight segments of pipework along the index run, forming part of an air-conditioning system— (a) in pipework systems that do not have branches and have the same flow rate throughout the entire pipe network, must achieve an average pressure drop of not more than— (i) for constant speed systems, the values nominated in Table J6D8a; or (ii) for variable speed systems, the values nominated in Table J6D8b; or (b) in any other pipework system, must achieve an average pressure drop of not more than—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(i) for constant speed systems, the values nominated in Table J6D8c; or (ii) for variable speed systems, the values nominated in Table J6D8d. (5) The requirements of (4) do not apply— (a) to valves and fittings; or (b) where the smallest pipe size compliant with (4) results in a velocity of 0.7 m/s or less at design flow.	
J6D9	**Pipework insulation**	
CRA	(1) Piping, vessels, heat exchangers and tanks containing heating or cooling fluid, where the fluid is held at a heated or cooled temperature, that are part of an air-conditioning system, other than in appliances covered by MEPS, must be provided with insulation— (a) complying with AS/NZS 4859.1; and (b) for piping of heating and cooling fluids, having an insulation R-Value in accordance with Table J6D9a; and (c) for vessels, heat exchangers or tanks, having an insulation R-Value in accordance with Table J6D9b; and (d) for refill or pressure relief piping, having an insulation R-Value equal to the required insulation R-Value of the connected pipe, vessel or tank within 500 mm of the connection. (2) Insulation must— (a) be protected against the effects of weather and sunlight; and (b) be able to withstand the temperatures within the piping, vessel, heat exchanger or tank. (3) Insulation provided to piping, vessels, heat exchangers or tanks containing cooling fluid must be protected by a vapour barrier on the outside of the insulation. (4) The requirements of (1) and (2) do not apply to piping, vessels or heat exchangers— (a) located within the only or last room served by the system and downstream of the control device for the regulation of heating or cooling service to that room; or (b) encased within a concrete slab or panel which is part of a heating or cooling system; or (c) supplied as an integral part of a chiller, boiler or unitary air-conditioner complying with the requirements of J6D10, J6D11 and J6D12; or (d) inside an air-handling unit, fan-coil unit, or the like. (5) For the purposes of (1), (2), (3) and (4)— (a) heating fluids include refrigerant, heated water, steam and condensate; and (b) cooling fluids include refrigerant, chilled water, brines and glycol mixtures, but do not include condenser cooling water.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

NSW J6D10	Space heating	
CRA	(1) A heater used for air-conditioning or as part of an air-conditioning system must be— (a) a solar heater; or (b) a gas heater; or (c) a heat pump heater; or (d) a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or (e) an electric heater if— (i) the heating capacity is not more than— (A) 10 W/m2 of the floor area of the conditioned space in climate zone 1; or (B) 40 W/m2 of the floor area of the conditioned space in climate zone 2; or (C) the value specified in Table J6D10 where reticulated gas is not available at the allotment boundary; or (ii) the annual energy consumption for heating is not more than 15 kWh/m2 of the floor area of the conditioned space in climate zones 1, 2, 3, 4 and 5; or (iii) the in-duct heater complies with J6D3(1)(b)(iii); or (f) any combination of (a) to (e). (2) An electric heater may be used for heating a bathroom in a Class 3, 9a or 9c building if the heating capacity is not more than 1.2 kW and the heater has a timer. (3) A fixed heating or cooling appliance that moderates the temperature of an outdoor space must be configured to automatically shut down when— (a) there are no occupants in the space served; or (b) a period of one hour has elapsed since the last activation of the heater; or (c) the space served has reached the design temperature. (4) A gas water heater, that is used as part of an air-conditioning system, must— (a) if rated to consume 500 MJ/hour of gas or less, achieve a minimum gross thermal efficiency of 86%; or (b) if rated to consume more than 500 MJ/hour of gas, achieve a minimum gross thermal efficiency of 90%.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

J6D11	**Refrigerant chillers**	
CRA	An air-conditioning system refrigerant chiller must comply with MEPS and the full load operation energy efficiency ratio and integrated part load energy efficiency ratio in Table J6D11a or Table J6D11b when determined in accordance with AHRI 551/591.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J6D12	**Unitary air-conditioning equipment**	
CRA	Unitary air-conditioning equipment including packaged air-conditioners, split systems, and variable refrigerant flow systems must comply with MEPS and for a capacity greater than or equal to 65 kWr— (a) where water cooled, have a minimum energy efficiency ratio of 4.0 $Wr/W_{input\ power}$ for cooling when tested in accordance with AS/NZS 3823.1.2 at test condition T1, where input power includes both compressor and fan input power; or (b) where air cooled, have a minimum energy efficiency ratio of 2.9 $Wr/W_{input\ power}$ for cooling when tested in accordance with AS/NZS 3823.1.2 at test condition T1, where input power includes both compressor and fan input power.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J6D13	**Heat rejection equipment**	
CRA	(1) The motor rated power of a fan in a cooling tower, closed circuit cooler or evaporative condenser must not exceed the allowances in Table J6D13. (2) The fan in an air-cooled condenser must have a motor rated power of not more than 42 W for each kW of heat rejected from the refrigerant, when determined in accordance with AHRI 460 except for— (a) a refrigerant chiller in an air-conditioning system that complies with the energy efficiency ratios in J6D11; or (b) packaged air-conditioners, split systems, and variable refrigerant flow air-conditioning equipment that complies with the energy efficiency ratios in J6D12.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
Part J7 – Artificial lighting and power		
Clause	**Reference**	**Comment**
NSW J7D3	**Artificial lighting**	
CRA	(1) This subclause does not apply in NSW. NSW J7D3(2) (2) In a Class 3 or Class 5 to 9 building—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

(a) for artificial lighting, the aggregate design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum illumination power density in Table J7D3a; and
(b) the aggregate design illumination power load in (a) is the sum of the design illumination power loads in each of the spaces served; and
(c) where there are multiple lighting systems serving the same space, the design illumination power load for (b) is—
(i) the total illumination power load of all systems; or
(ii) where a control system permits only one system to operate at a time based on the highest illumination
power load; or determined by the formula—

$$[H \times T/2 - P \times (100 - T/2] / 100$$

(d) In the formula at (c)(ii)—
(i) H = the highest illumination power load; and
(ii) T = the time for which the maximum illumination power load will occur, expressed as a percentage; and
(iii) P = the predominant illumination power load.
(3) The requirements of (1) and (2) do not apply to the following:
(a) Emergency lighting provided in accordance with Part E4.
(b) Signage, display lighting within cabinets and display cases that are fixed in place.
(c) Lighting for accommodation within the residential part of a detention centre.
(d) A heater where the heater also emits light, such as in bathrooms.
(e) Lighting of a specialist process nature such as in a surgical operating theatre, fume cupboard or clean workstation.
(f) Lighting of performances such as theatrical or sporting.
(g) Lighting for the permanent display and preservation of works of art or objects in a museum or gallery other than for retail sale, purchase or auction.
(h) Lighting installed solely to provide photosynthetically active radiation for indoor plant growth on green walls and the like.
(4) For the purposes of Table J7D3b, the following control devices must comply with Specification 40:
(a) Lighting timers.
(b) Motion detectors.

	(c) Daylight sensors and dynamic lighting control devices.	
NSW J7D4	**Interior artificial lighting and power control**	
CRA	(1) All artificial lighting of a room or space must be individually operated by– (a) a switch; or (b) other control device; or (c) a combination of (a) and (b). (2) An occupant activated device, such as a room security device, a motion detector in accordance with Specification 40, or the like, must be provided in the sole-occupancy unit of a Class 3 building, other than where providing accommodation for people with a disability or the aged, to cut power to the artificial lighting, air-conditioner, local exhaust fans and bathroom heater when the sole-occupancy unit is unoccupied. (3) An artificial lighting switch or other control device in (1) must— (a) if an artificial lighting switch, be located in a visible and easily accessed position— (i) in the room or space being switched; or (ii) in an adjacent room or space from where 90% of the lighting being switched is visible; and (b) for other than a single functional space such as an auditorium, theatre, swimming pool, sporting stadium or warehouse— (i) if in a Class 5 building or a Class 8 laboratory, not operate lighting for an area of more than 250 m2; or (ii) if in a Class 3, 6, 7, 8 (other than a laboratory) or 9 building, not operate lighting for an area of more than— (A) 250 m2 for a space of not more than 2000 m2; or (B) 1000 m2 for a space of more than 2000 m2. (4) 95% of the light fittings in a building or storey of a building, other than a Class 3 building of more than 250 m2 must be controlled by— (a) a time switch in accordance with Specification 40; or (b) an occupant sensing device such as— (i) a security key card reader that registers a person entering and leaving the building; or (ii) a motion detector in accordance with Specification 40. (5) In a Class 5, 6 or 8 building of more than 250 m2, artificial lighting in a natural lighting zone adjacent to windows must be separately controlled from artificial lighting not in a natural lighting zone in the same storey except where—	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

	(a) the room containing the natural lighting zone is less than 20 m2; or (b) the room's natural lighting zone contains less than 4 luminaires; or (c) 70% or more of the luminaires in the room are in the natural lighting zone. (6) Artificial lighting in a fire-isolated stairway, fire-isolated passageway or fire-isolated ramp, must be controlled by a motion detector in accordance with Specification 40. (7) Artificial lighting in a foyer, corridor and other circulation spaces— (a) of more than 250 W within a single zone; and (b) adjacent to windows, must be controlled by a daylight sensor and dynamic lighting control device in accordance with Specification 40. (8) Artificial lighting for daytime travel in the first 19 m of travel in a carpark entry zone must be controlled by a daylight sensor in accordance with Specification 40. (9) The requirements of (1), (2), (3), (4), (5), (6), (7) and (8) do not apply to the following: (a) Emergency lighting in accordance with Part E4. (b) Where artificial lighting is needed for 24 hour occupancy such as for a manufacturing process, parts of a hospital, an airport control tower or within a detention centre. (10) The requirements of (4) do not apply to the following: (a) Artificial lighting in a space where the sudden loss of artificial lighting would cause an unsafe situation such as— (i) in a patient care area in a Class 9a building or in a Class 9c building; or (ii) a plant room or lift motor room; or (iii) a workshop where power tools are used. (b) A heater where the heater also emits light, such as in bathrooms.	
J7D5	**Interior decorative and display lighting**	
CRA	(1) Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled— (a) separately from other artificial lighting; and (b) by a manual switch for each area other than when the operating times of the displays are the same in a number of areas such as in a museum, art gallery or the like, in which case they may be combined; and (c) by a time switch in accordance with Specification 40 where the display lighting exceeds 1 kW. (2) Window display lighting must be controlled separately from other display lighting.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

J7D6	**Exterior artificial lighting**	
CRA	(1) Exterior artificial lighting attached to or directed at the facade of a building, must— (a) be controlled by— (i) a daylight sensor; or (ii) a time switch that is capable of switching on and off electric power to the system at variable pre-programmed times and on variable pre-programmed days; and (b) when the total lighting load exceeds 100 W— (i) use LED luminaires for 90% of the total lighting load; or (ii) be controlled by a motion detector in accordance with Specification 40; or (iii) when used for decorative purposes, such as façade lighting or signage lighting, have a separate time switch in accordance with Specification 40. (2) The requirements of (1)(b) do not apply to the following: (a) Emergency lighting in accordance with Part E4. (b) Lighting around a detention centre.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J7D7	**Boiling water and chilled water storage units**	
CRA	Power supply to a boiling water or chilled water storage unit must be controlled by a time switch in accordance with Specification 40.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J7D8	**Lifts**	
CRA	Lifts must— (a) be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes; and (b) achieve the idle and standby energy performance level in Table J7D8a; and (c) achieve— (i) the energy efficiency class in Table J7D8b; or (ii) if a dedicated goods lift, energy efficiency class D in accordance with ISO 25745-2. Note: Refer to Table J7D8a & b directly from the BCA.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.
J7D9	**Escalators and moving walkways**	
N/A	Escalators and moving walkways must have the ability to slow to between 0.2 m/s and 0.05 m/s when unused for more than 15 minutes.	Not applicable – This clause is not applicable to this project. No action required.

Part J8 – Heated water supply and swimming pool and spa pool plant		
Clause	Reference	Comment
J8D2	Heated water supply	
CRA	A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary.

Part J9 – Energy monitoring and on-site distributes energy resources		
Clause	Reference	Comment
J9D3	Facilities for energy monitoring	
CRA	(1) A building or sole-occupancy unit with a floor area of more than 500 m2 must have energy meters configured to record the time-of-use consumption of gas and electricity. (2) A building with a floor area of more than 2500 m2 must have energy meters configured to enable individual time-of-use energy data recording, in accordance with (3), of— (a) air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and (b) artificial lighting; and (c) appliance power; and (d) central hot water supply; and (e) internal transport devices including lifts, escalators and moving walkways where there is more than one serving the building; and (f) on-site renewable energy equipment; and (g) on-site electric vehicle charging equipment; and (h) on-site battery systems; and (i) other ancillary plant. (3) Energy meters required by (2) must be interlinked by a communication system that collates the time-of-use energy data to a single interface monitoring system where it can be stored, analysed and reviewed. (4) The provisions of (2) do not apply to energy meters serving— (a) a Class 2 building where the total floor area of the common areas is less than 500 m2; or (b) individual sole-occupancy units with a floor area of less than 2 500 m2.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. The building has a floor area over 500m2; thus, energy monitoring device is required.

J9D4	Facilities for electric vehicle charging equipment	
CRA	(1) Subject to (2), a carpark associated with a Class 2, 3, 5, 6, 7b, 8 or 9 building must be provided with electrical distribution boards dedicated to electric vehicle charging— (a) in accordance with Table J9D4 in each storey of the carpark; and (b) labelled to indicate use for electric vehicle charging equipment. (2) Electrical distribution boards dedicated to serving electric vehicle charging in a carpark must— (a) be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand; and (b) when associated with a Class 2 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily; and (c) when associated with a Class 5 to 9 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 9:00 am to 5:00 pm daily; and (d) when associated with a Class 3 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 48 kWh from 11:00 pm to 7:00 am daily; and (e) be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in— (i) 100% of the car parking spaces associated with a Class 2 building; or (ii) 10% of car parking spaces associated with a Class 5 or 6 building; or (iii) 20% of car parking spaces associated with a Class 3, 7b, 8 or 9 building; and (f) contain space of at least 36 mm width of DIN rail per outgoing circuit for individual sub-circuit electricity metering to record electricity use of electric vehicle charging equipment; and (g) be labelled to indicate the use of the space required by (f) is for the future installation of metering equipment.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Care is to be taken with the potential distribution boards upgrade for the following building classes due to the required provisions for future electric charging stations. ESD Consultant to assess and confirm compliance. • Class 2: 100% car spaces • Class 5: 10% • Class: 9b: 20% Note: Consider addressing inclusion of EV charging stations to future proof the building.

J9D5	Facilities for solar photovoltaic and battery systems	
CRA	(1) The main electrical switchboard of a building must— (a) contain at least two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of each space for— (i) a solar photovoltaic system; and (ii) a battery system; and (b) be sized to accommodate the installation of solar photovoltaic panels producing their maximum electrical output on at least 20% of the building roof area.	Design aligns with DTS provisions. Compliance is achievable, subject to specialist confirmation where necessary. Ensure the roof remains capable to accommodate 20% minimum roof area for photovoltaic panels (solar panels). ESD Consultant to assess and confirm compliance.

(2) At least 20% of the roof area of a building must be left clear for the installation of solar photovoltaic panels, except for buildings—
(a) with installed solar photovoltaic panels on—
(i) at least 20% of the roof area; or
(ii) an equivalent generation capacity elsewhere on-site; or
(b) where 100% of the roof area is shaded for more than 70% of daylight hours; or
(c) with a roof area of not more than 55 m2 (c); or
(d) where more than 50% of the roof area is used as a terrace, carpark, roof garden, roof light or the like.

New South Wales		
NSW Part I4	Entertainment venues other than temporary structures and drive-in theatres	
Clause	Reference	Comment
NSW I4D1	Application of Part	
N/A	This Part applies to every entertainment venue as described in the Environmental Planning and Assessment Regulation 2021.	Not applicable – This clause is not applicable to this project. No action required. From the information provided, it is understood that the building will not be used as "a cinema, theatre or concert hall or an indoor sports stadium". Thus, not constituting an Entertainment Venue as per EP&A Regs definition.

End of table

Addendum B:
REVIEWED DOCUMENTATION

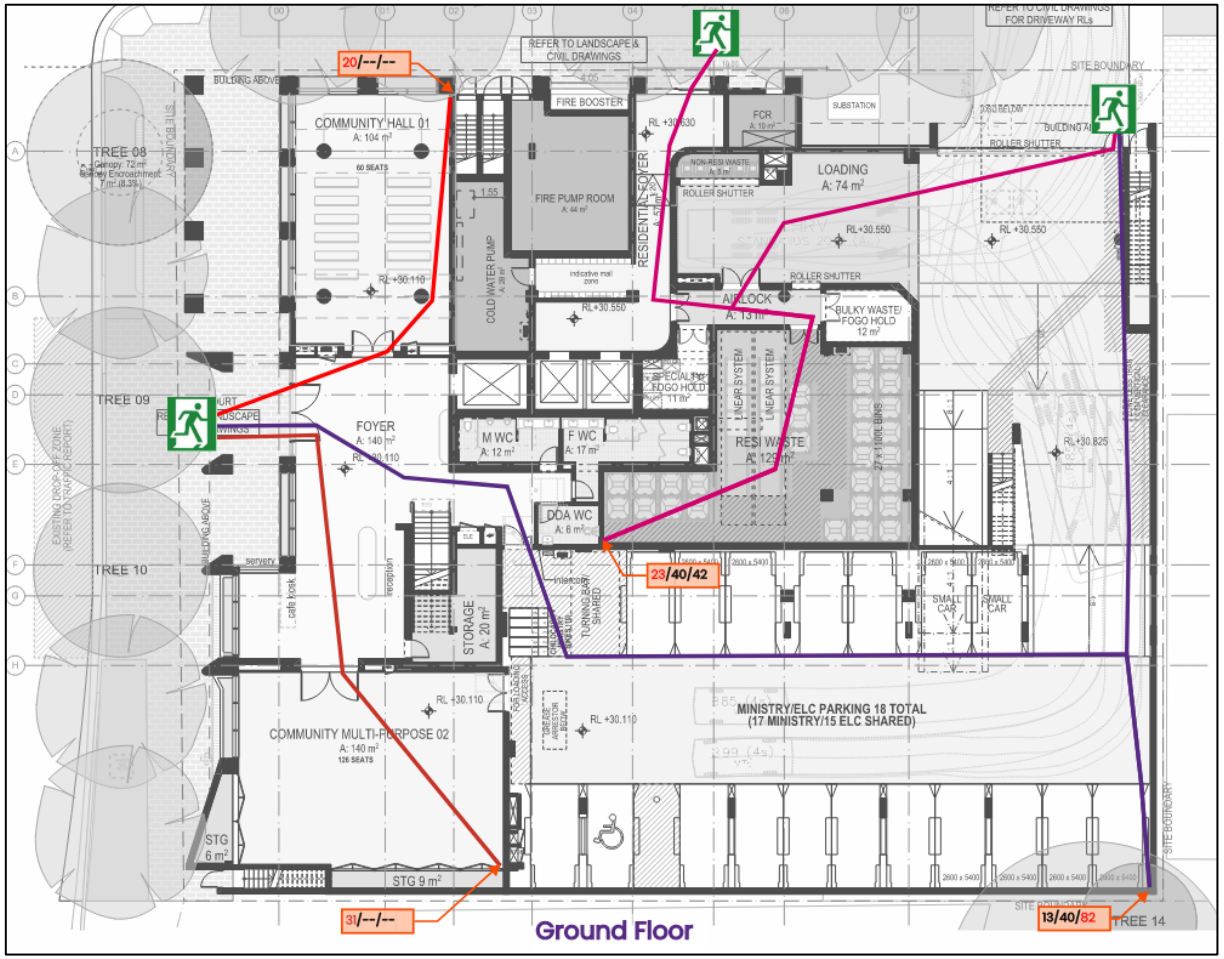
Reviewed Documentation

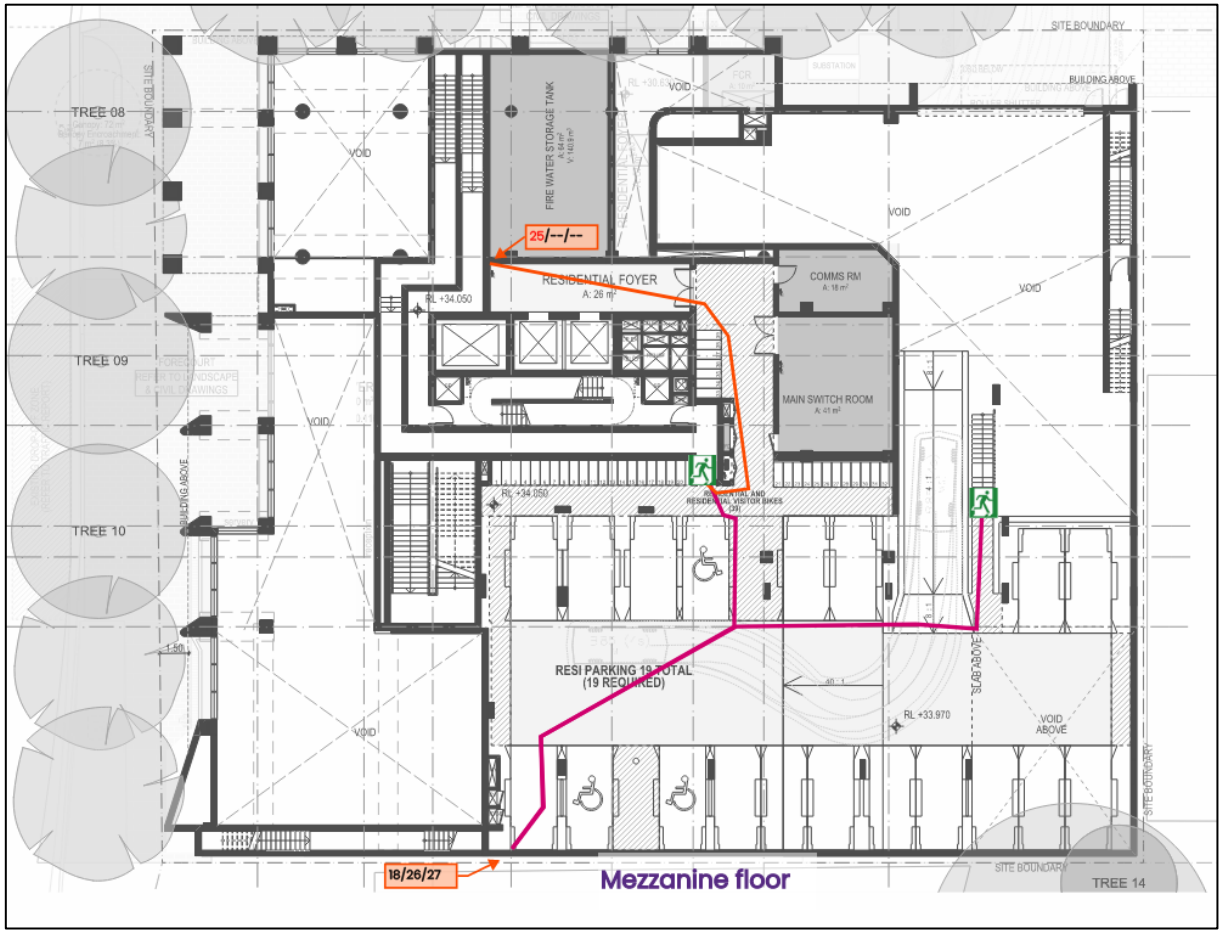
This assessment report is construed based on the following reviewed documentation prepared by Plus Architects, project number 20451, dated 04/02/2026.

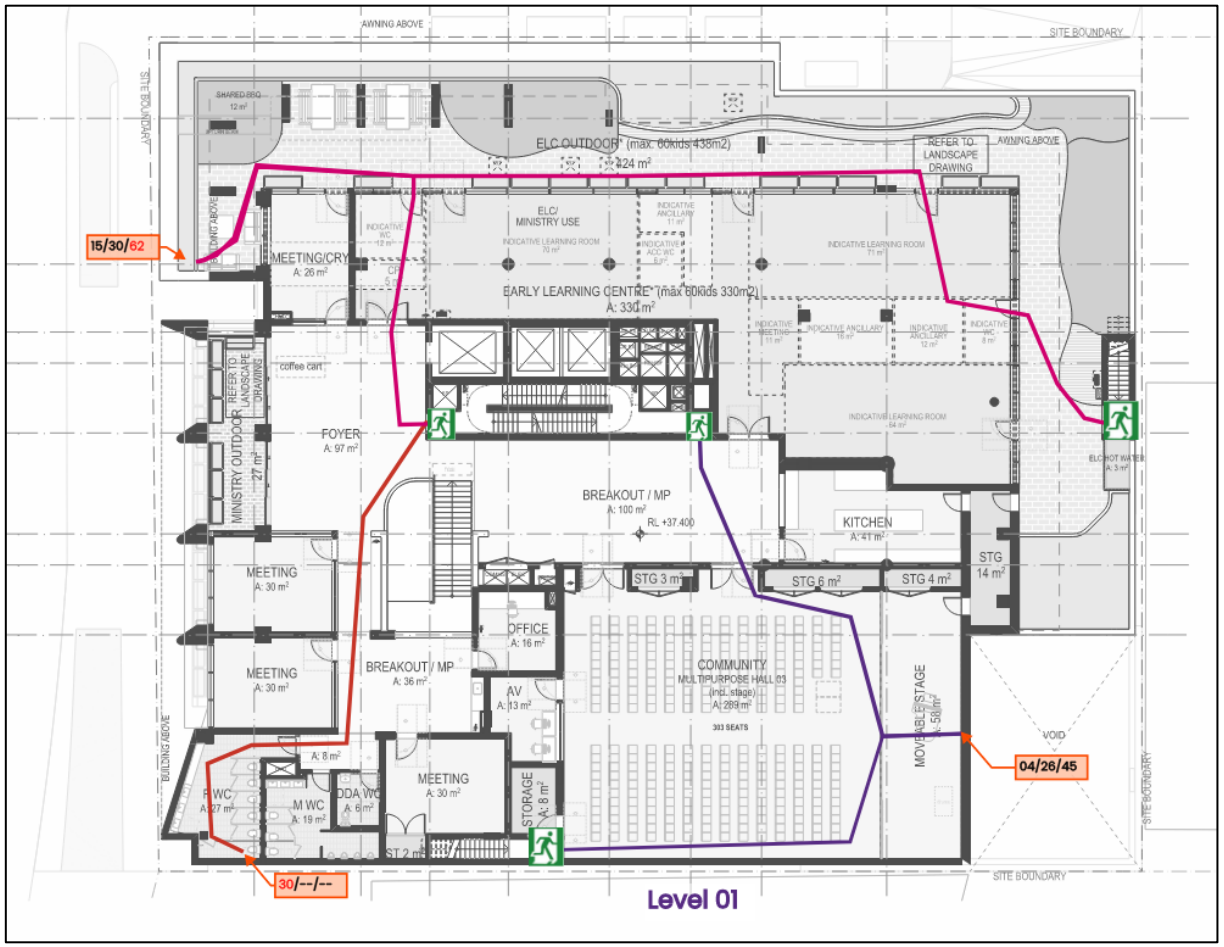
Description	Drawing No.	Revision	Date
Proposed site plan	DA-0004	C	04/02/2026
Ground	DA-1000	C	04/02/2026
Mezz	DA-1000M	C	04/02/2026
Level 01	DA-1001	C	04/02/2026
Level 02	DA-1002	C	04/02/2026
Level 03-16	DA-1003	C	04/02/2026
Level 17	DA-1017	C	04/02/2026
Level 18	DA-1018	C	04/02/2026
Roof	DA-1019	C	04/02/2026
Basement	DA-10B1	C	04/02/2026
Elevations – sheet 01	DA-2000	C	04/02/2026
Elevations – sheet 02	DA-2001	C	04/02/2026
Elevations – sheet 03	DA-2002	C	04/02/2026
Elevations – sheet 04	DA-2003	C	04/02/2026
Sections – sheet 01	DA-3000	C	04/02/2026
Sections – sheet 02	DA-3001	C	04/02/2026
Sections – sheet 03	DA-3002	C	04/02/2026
External finishes	DA-7000	C	04/02/2026

Addendum C:
IDENTIFIED EGRESS PATHS

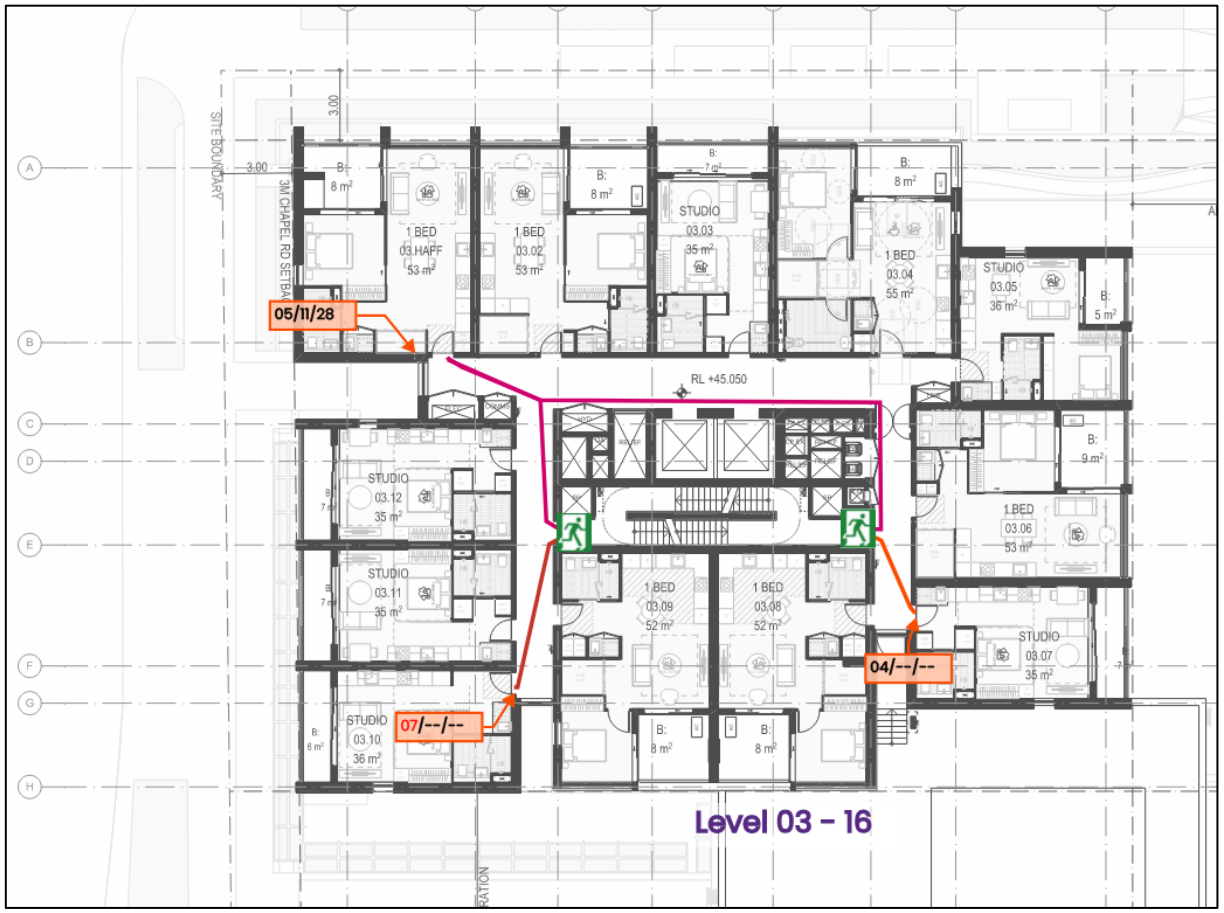
Nominated Exits and Associated Travel Distances



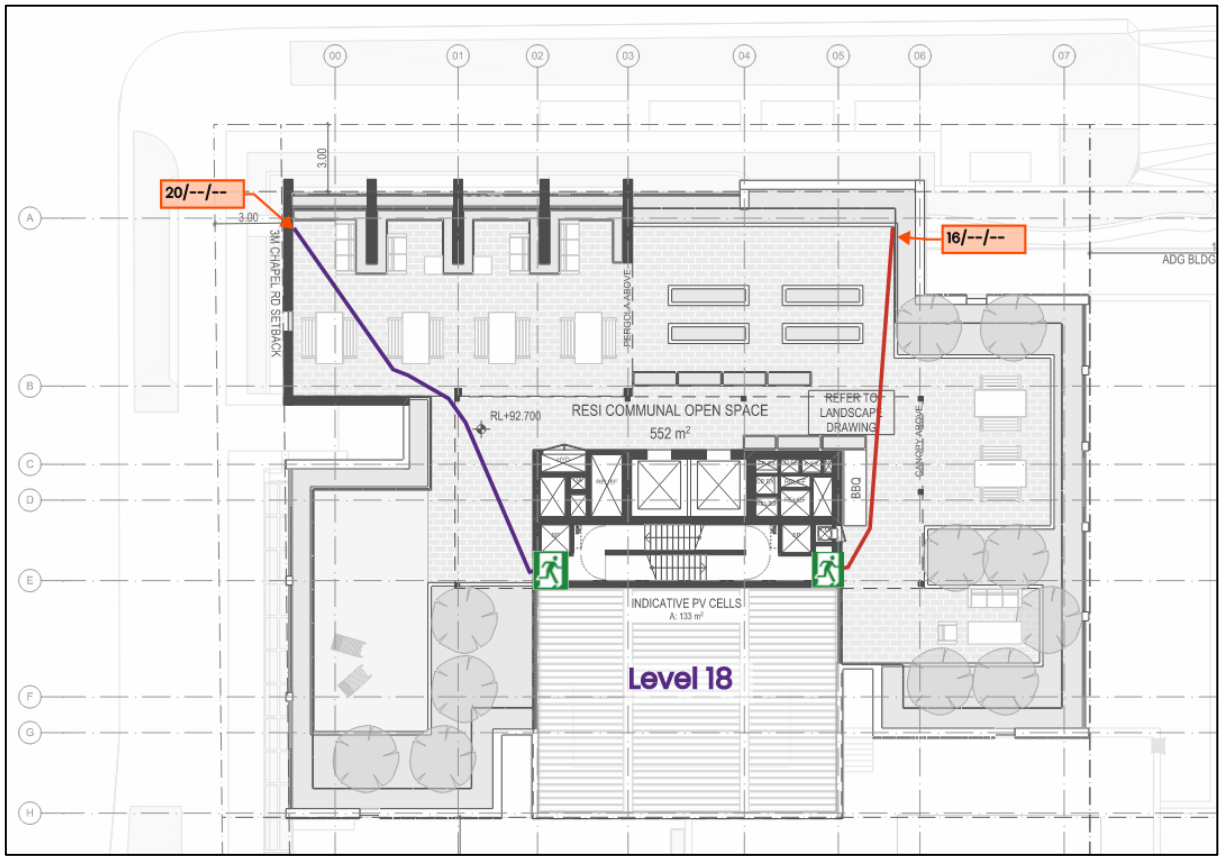

SITE BOUNDARY
BUILDING ABOVE
TREE 08
TREE 09
TREE 10
TREE 14
FIRE WATER STORAGE TANK
VOID
25/--/--
RESIDENTIAL FOYER
A: 26 m²
RL +34.050
COMMS RM
A: 18 m²
MAIN SWITCH ROOM
A: 41 m²
RESI PARKING 19 TOTAL
(19 REQUIRED)
RL +33.970
VOID ABOVE
18/26/27
Mezzanine floor


AWNING ABOVE
SITE BOUNDARY
SHARED BBQ
ELC OUTDOOR (max. 60kids 438m2)
424 m²
REFER TO LANDSCAPE DRAWING
ELC/ MINISTRY USE
INDICATIVE LEARNING ROOM
INDICATIVE ANCILLARY
INDICATIVE ACC. WC
INDICATIVE WC
15/30/62
MEETING/CRY
A: 26 m²
EARLY LEARNING CENTRE (max 60kids 330m2)
A: 330 m²
INDICATIVE MEETING
INDICATIVE LEARNING ROOM 71 m²
INDICATIVE LEARNING ROOM 64 m²
coffee cart
REFER TO LANDSCAPE DRAWING
MINISTRY OUTDOOR 27 m²
FOYER
A: 97 m²
ELC HOT WATER
A: 3 m²
BREAKOUT / MP
A: 100 m²
RL +37.400
KITCHEN
A: 41 m²
STG 14 m²
STG 3 m²
STG 6 m²
STG 4 m²
MEETING
A: 30 m²
OFFICE
A: 16 m²
MEETING
A: 30 m²
BREAKOUT / MP
A: 36 m²
AV
A: 13 m²
COMMUNITY MULTIPURPOSE HALL 03 (incl. stage)
A: 289 m²
303 SEATS
MOVEABLE STAGE
A: 58 m²
VOID
04/26/45
BUILDING ABOVE
A: 8 m²
F WC
A: 27 m²
M WC
A: 19 m²
DDA WC
A: 6 m²
MEETING
A: 30 m²
STORAGE
A: 8 m²
ST 2 m²
30/--/--
SITE BOUNDARY
Level 01


Level 02
04/11/28
15/--/--
05/--/--
RL +41.900
STUDIO 02.03 35 m²
1 BED 02.01 53 m²
1 BED 02.02 53 m²
1 BED 02.04 55 m²
STUDIO 02.05 36 m²
1 BED 02.06 53 m²
STUDIO 02.07 35 m²
RECTORY 02.08 175 m²
INDICATIVE MINISTRY AC A: 59 m²
REFER TO LANDSCAPE DRAWING
ROOF (PV ZONE IF REQUIRED)
SITE BOUNDARY
3M CHAPEL RD SETBACK
ADG BLD


05/11/28
07/--/--
04/--/--
RL +45.050
Level 03 - 16


05/11/28
07/--/--
22/--/--
05/--/--
MECH ZONE
HOT WATER PLANT
3M CHAPEL RD SETBACK
Level 17


20/--/--
16/--/--
3M CHAPEL RD SETBACK
PERGOLA ABOVE
RESI COMMUNAL OPEN SPACE
552 m²
RL+92.700
REFER TO LANDSCAPE DRAWING
BBQ
INDICATIVE PV CELLS
Level 18
ADG BLDG

Addendum D:
STATEMENT OF COMPLIANCE

Statement of Compliance

New Crown Consulting have completed a detailed assessment of the subject proposed development, as indicated on the architectural drawings referenced in Addendum B of this report, against the relevant provisions of the BCA 2022 Amendment 2. The details of this assessment are specified in the Clause-by-Clause Assessment Table from Addendum A of this report.

Subject to this assessment, it is New Crown Consulting's professional opinion that the design of the proposed development complies, or is capable of complying, with the relevant provisions of the BCA 2022 Amendment 2 by means of DTS provisions or Performance Solutions.

Mauricio Vera
Managing Director
Building Surveyor
newcrown.com.au

"We should attempt to bring nature, houses, and human beings together in a higher unity"

Ludwig Mies van der Rohe

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new crown consulting

COMPLIANCE RIGHT FROM THE START