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BUILDING CODE OF AUSTRALIA 2022 COMPLIANCE REPORT

Project: Residential Flat Building
Building Address: 12-16 Stuart Road, Warrawong
Prepared for: Homes NSW
Date: 25 February 2025

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1.0 BASIS OF ASSESSMENT

1.1 Location and Building Description

The development, subject to this report, is located at 12-16 Stuart Road, Warrawong.

The development consists of a Residential Flat Building comprising 16 sole-occupancy units.

1.2 Purpose of Building Report

The purpose of this report is to:

- Identify the relevant Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) in relation Clauses B, C, D, E, F, G and I and provide any non-compliances with the relevant Clauses for the proposed development in order to issue a Section 6.28 Crown Certificate; and
- Provide a schedule of fire safety measures for the proposed development.

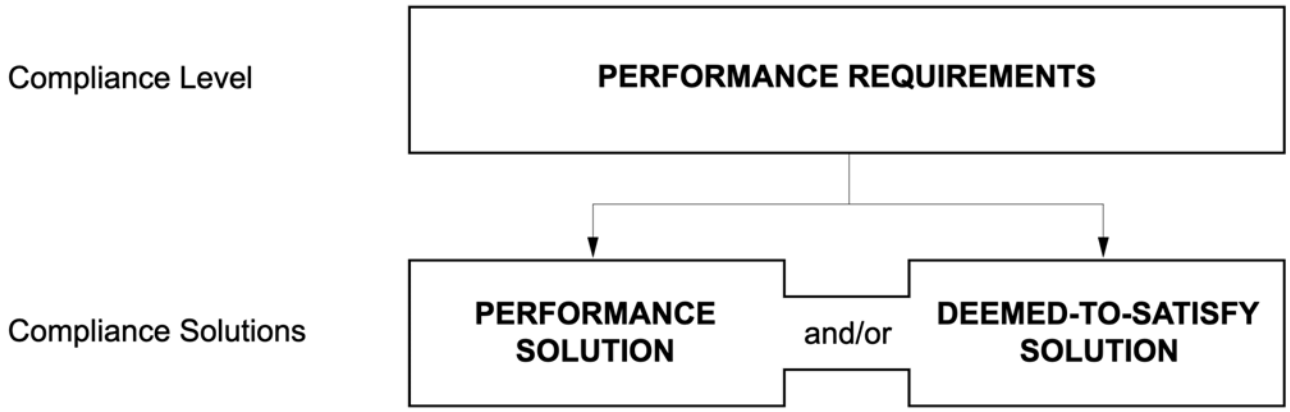
Section A2G1 of the Building Code of Australia 2022 states that the Performance Requirements can only be satisfied by a:

(a) Performance Solution; or
(b) Deemed-to-Satisfy Solution; or
(c) A combination of (a) and (b).

The following is noted:

- the term *Performance Solution* was formerly known as an *Alternative Solution*
- The terms *Performance Solution* and *Deemed-to-Satisfy Solution* were formerly used under the term *Building Solution.*

Figure A2G1 NCC compliance structure



1.3 Building Code of Australia (BCA)

This Report is based on the Deemed-to-Satisfy Provisions of the National Construction Code (NCC) Series – Building Code of Australia (BCA) 2022 – Volume 1 and the NSW variations where applicable and the Disability (Access to Premises – Buildings) Amendment Standards 2020.

1.4 Report Limitations

This Report does not include nor imply any detailed review or assessment for design compliance or upgrading for:–

1. The structural adequacy or design of the building;
2. The inherent derived fire-resistance ratings of any existing structural elements of the building (unless specifically referred to); and
3. The design basis and/or operating capabilities of any existing or proposed electrical, mechanical or hydraulic fire safety measure.

This Report does not include, imply or comply with:

1. Demolition Standards not referred to by the BCA;
2. Occupational Health and Safety Act;
3. Construction Safety Act; and
4. Requirements of other Regulatory Authorities including, but not limited to, Telstra, Water Authority, Electricity Authority, WorkCover, RTA, Council and the like.

Note:
The content of this Report is provided for information only to demonstrate the types of fire safety measures that may be required to be installed in a building of this design when referencing the Deemed-to-Satisfy provisions of the Building Code of Australia.

1.5 Relevant Stakeholders

The relevant stakeholders for this project are as listed in the table below.

Role	Organisation
Client	Homes NSW
Consent Authority	N/A
Principal Certifier	Buildcert NSW Pty Ltd
BCA Consultant	N/A
Access Consultant	Accessed

1.6 Design Documentation

This Report has been based on the following;

- Plans prepared by SARM Architects, Project No. BGYUD.

Drawing No.	Sheet Name	Rev No.	Date
A000	Cover Page & Drawing List	E	18-11-2024
A001	Context Block Analysis	E	18-11-2024
A100	Site Analysis	E	18-11-2024
A101	Demolition Plan	E	18-11-2024
A103	Cut and Fill Plan	E	18-11-2024
A104	Sediment Erosion & Control Plan	E	18-11-2024

Drawing No.	Sheet Name	Rev No.	Date
A105	Area Calculations	E	18-11-2024
A106	Natural Ventilation Plans	E	18-11-2024
A200	Site Plan	G	10-01-2025
A201	Ground Floor Plan	G	10-01-2025
A202	First Floor Plan	G	10-01-2025
A203	Roof Plan	G	10-01-2025
A300	Elevation – East & West	G	10-01-2025
A301	Elevation – North & South	G	10-01-2025
A302	Material & Finish Schedule	G	10-01-2025
A303	Sections – Sheet 1	G	10-01-2025
A304	Sections – Sheet 2	G	10-01-2025
A401	View from Sun Study	E	18-11-2024
A402	Shadow Diagrams	E	18-11-2024
A502	Aerial Perspectives	E	18-11-2024

- Building Code of Australia 2022 and relevant Australian Standards.
- Environmental Planning and Assessment Act 1979.
- Environmental Planning and Assessment Regulation 2021.
- Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021.
- Disability (Access to Premises – Buildings) Amendment Standards 2020.

1.7 Summary of Non-compliances

The following table provides a list of Deemed-to-Satisfy compliance departures with the proposed design;

Summary of Non-Compliances		
Item #	**BCA Clause**	**Comments**
1.	Section B	Structural engineer's details and design statement is to be provided for all structural elements of the development.
2.	C2D2 & Spec 5	The building is to be designed to comply with Type B Construction
3.	C2D9	Lightweight construction must comply with Spec 6 if it is used in a wall system that is required to have an FRL.
4.	C2D10	The following elements and their components are required to be non-combustible: - External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation. - Non-loadbearing internal walls where they are required to be fire-resisting. Provide details confirming compliance.
5.	NSW C2D11 & Spec 7	The fire hazard properties for all floor linings and coverings, wall and ceiling linings are to be provided by the manufacture in the form of the following; (a) a current CodeMark certificate, (b) a current certificate of Accreditation, (c) a report issued by an Accredited Testing Laboratory The rigid and flexible air-handling ductwork must comply with the relevant fire hazard properties set out in AS4254.1 and AS4254.2 in the form of the following;

		(a) a current CodeMark certificate, (b) a current certificate of Accreditation, a report issued by an Accredited Testing Laboratory
6.	C2D14	Ancillary elements must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it complies with the allowable points in C2D14. The architect/structural engineer is to provide specifications for each ancillary building element to satisfy the non-combustible requirements.
7.	C4D12	Sole-occupancy unit entry doors shall be provided with self-closing, tight fitting, solid core doors, not less than 35mm thick. A door schedule is to be provided to confirm compliance.
8.	C4D13, C4D14, C4D15, C4D16 & Spec 13	A Passive Fire/Stopping and Sealing detail and specification is to be provided for all penetrations in fire rated building elements. The detail and specifications are to be prepared by an independent certifier/building surveyor who has the level of accreditation sufficient to issue the approval for the development, or a suitably qualified consultant or company specialising in passive fire/stopping and sealing of building elements.
9.	D2D8	Provide confirmation a clear path of travel not less than 1m wide is provided throughout (including width of stairways measured between handrails).
10.	D3D8	Main Distribution Board and Electrical Switch Board that are within the path of travel to an exit are required to be enclosed in a non-combustible cover and suitably smoke sealed.
11.	D3D9	The space below the stairs at each level must not be enclosed to form a cupboard or other enclosed space unless the walls and ceiling have an FRL of 60/60/60 and a –/60/30 fire door.
12.	D3D11	A ramp serving as a required exit must comply with AS 1428.1-2009 where it is also serving as an accessible ramp under Part D4 and slip-resistance not less than that listed in Table D3D15 and tested in accordance with AS 4586.
13.	D3D14 & D3D15	A stair detail and section including opaque/enclosed risers, non-slip nosings, landings and one tread width offset landing/step on the lower flight is required to facilitate accessible compliant handrails is to be provided to confirm compliance.
14.	D3D16	The threshold of the doorways must not incorporate a step at any point closer to the doorway than the width of the door unless provided with a threshold ramp or step ramp in accordance with AS1428.1-2009.
15.	D3D17 & D3D18	Balustrades are to be provided to stairs and balconies where there is a fall of more than 1m. I.e. min. 865mm above stair nosings and 1m in all other locations and where the floor is more than 4m above the surface beneath, the balustrade must not incorporate any horizontal or near horizontal elements between 150mm and 760mm above the floor that could facilitate climbing. Plans are required to confirm compliance.
16.	D3D22	Handrails are to be located on both sides of ramps and stairways in required exits where they are required to be accessible to comply with Clause 12 of AS 1428.1-2009.
17.	D3D26	Lever downward action door hardware are to be provided to required exits and paths of travel doors and are to be openable without a key from the side seeking egress.
18.	D3D26	Doorways serving areas required to be accessible in accordance with Part D4 of the BCA are to be provided with lever downward action door hardware that the hand of a person who cannot grip will not slip from the handle during operation of the latch and have clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm.
19.	D3D29	Bedroom windows are required to be protected in accordance with this clause.
20.	Part D4	A disability access design audit certified by an accredited access consultant is to be provided confirming compliance with Part D4 of the BCA and AS1428.1-2009.
21.	E1D2	Fire hydrant system is required. Provide hydraulic details and design certificate prepared by an accredited practitioner (fire safety) to confirm compliance with pressure/flow and coverage in accordance with AS 2419.1-2021.
22.	E1D14	The building is to be provided with Portable Fire Extinguishers in accordance with E1D14 and AS 2444-2001.

23.	E2D3, E2D8 & Spec 20	The building is to be provided with an automatic smoke detection and alarm system complying with Spec 20 Clauses 4 & 7. Electrical details and design certificate are to be provided prior to issue of the Construction Certificate.
24.	E3D2, E3D6, E3D7, E3D8 & Spec 24	The lift design is to comply with these clauses and AS1735.12-1999 and manufacturer details and specifications are to be provided.
25.	E4D2, E4D5, E4D6, E4D8 & Spec 25	Emergency lighting, exit signs and direction signs are required throughout the building, including common corridors, non-fire-isolated stairways, lift and public areas. Electrical details and design certificate are required to confirm compliance with these clauses and AS/NZS 2293.1-2018.
26.	F1D1	The architect or façade engineer is to demonstrate that the construction of the roof and external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.
27.	F1D5	The architect and structural engineer are to provide sections demonstrating compliance with AS 4654.1 and AS 4654.2 with particular attention to detail on the stepdown/termination heights.
28.	F1D8	Subfloor spaces must include openings in external and internal subfloor walls as specified for the climatic zones in Table F1D8 and Figure F1D8 and maintain clearance between the ground surface and the lowest horizontal member of the subfloor according to Table F1D8.
29.	F2D4	Where a floor waste is installed, the continuous fall of a floor plane to the waste must be minimum 1:80 and maximum 1:50. Plans are required to confirm compliance.
30.	F3D5	The external wall cladding must be in accordance with: - Masonry to AS 3700; or - Autoclaved aerated concrete to AS 5146.3; or - Metal wall cladding to AS 1562.1 Provide product certification and plans are required to confirm compliance. Where the cladding does not meet this provision, it must be assessed on a performance basis (F3P1 Weatherproofing performance Solution Report).
31.	F6D3 & F6D7	Habitable rooms are to be provided with a minimum 10% natural light and 5% natural ventilation. Where natural ventilation is not achievable, a mechanical ventilation or air-conditioning system complying with AS1668.2 is to be provided.
32.	F7D5, F7D6 & F7D7	A system for sound insulation of the floors/walls is to be provided on plans to demonstrate compliance with F7D5 & F7D6 and also specify the fire rating level (FRL's) in accordance with BCA Spec 5.
33.	F8D4	Provide details including a design statement to demonstrate compliance with the flow rate and discharge (kitchen, bathroom, sanitary compartment of laundry) of exhaust systems (bathroom – 25 L/s and kitchen & laundry – 40 L/s). Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air.
34.	F8D5	Provide details including a design statement for any ventilation of roof space.
35.	Section J	A report is required to demonstrate that the energy efficiency of the proposed building comply with the relevant clauses. **Note**: The Section J commitments are to be illustrated on the final CC plans with BASIX commitments.

1.8 Terminology

- ***Accredited Practitioner (Fire Safety)***
  An Accredited Practitioner (Fire Safety) is the holder of an accreditation under the *Building and Development Certifiers Act 2018* that authorises the holder to exercise the functions of an accredited practitioner (fire safety).

- ***Building Code of Australia***
  Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act 1979 and Regulation 2021.

- ***Effective Height***
  Effective height means the vertical distance between the floor of the lowest storey included in a determination of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).

- ***Exit***
  Exit means –
  (a) Any, or any combination of the following if they provide egress to a road or open space—
    (i) An internal or external stairway.
    (ii) A ramp.
    (iii) A fire-isolated passageway.
    (iv) A doorway opening to a road or open space.
  (b) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

- ***Fire Compartment***
  Fire compartment means either –
  (a) the total space of a building; or
  (b) when referred to in—
    (i) the *Performance Requirements* — any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
    (ii) the *Deemed-to-Satisfy Provisions* — any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that *required* for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the *Deemed-to Satisfy Provisions* of the relevant Part.

- ***Fire Resistance Level (FRL)***
  FRL means the grading periods in minutes tested in accordance with Specifications 1 and 2 for the following criteria -
  a) *structural adequacy*; and
  b) *integrity;* and
  c) *insulation*,
  and expressed in that order.

- ***Fire Source Feature (FSF)***
  Fire source feature means any one of the following:
  (a) The far boundary of a road, river, lake or the like adjoining the allotment.
  (b) A side or rear boundary of the allotment.
  (c) An external wall of another building on the allotment which is not a Class 10 building.

- ***Fire Wall***
  Fire wall means a wall with an appropriate resistance to the spread of fire that divides a storey or building into fire compartments.

- ***Loadbearing***

Loadbearing means intended to resist vertical forces additional to those due to its own weight.

- ***Mezzanine***
  Mezzanine means an intermediate floor within a room that is not enclosed by a wall.

- ***Non-combustible***
  Non-combustible means—
  (a) applied to a material — not deemed combustible as determined by AS 1530.1 — Combustibility Tests for Materials; and
  (b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

- ***Open Space***
  Open space means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

- ***Performance Requirements of the BCA***
  Performance requirements of the BCA means a Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must achieve.

  Compliance with the Performance Requirements can only be achieved by-
  (a) complying with the Deemed-to-Satisfy Provisions; or
  (b) formulating an Alternative Solution which-
  (i) complies with the Performance Requirements; or
  (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
  a combination of (a) and (b).

- ***Sarking-Type Material***
  Sarking-type material means a material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.

- ***Smoke Growth Rate Index***
  Smoke growth rate index (SMOGRA RC) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

- ***Sole-Occupancy Unit***
  Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—
  a) a dwelling; or
  b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or
  c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or
  d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

2.0 BUILDING DESCRIPTION

2.1 BCA Assessment Information

This section incorporates the access related provisions contained in the BCA. A summary of the compliance status of the architectural design is subsequently provided relevant to each clause. Alongside each clause heading; compliance shall be indicated by using one (or more) of the following compliance categories –

Characteristics	Building Classification and Description	
Building Classification (Part A6)	Class 2	Residential Flat Building
Rise in Storeys (C2D3)	2	
Levels Contained	2	
Type of Construction (C2D2 & Table C2D2)	Type B	
Effective Height (Schedule 1 – Definitions)	<12m (~ 3.1m)	
Floor Area (Schedule 1 – Definitions)	Ground Floor	513.2sqm
	Level 1	524.9sqm

- **Determining a building classification (BCA A6G1)**

  (1) The classification of a building or part of a building is determined by the purpose for which it is designed, constructed or adapted to be used.

  (2) Each part of a building must be classified according to its purpose and comply with all the appropriate requirements for its classification.

  Exemption 1: For A6G1(1) where a part of a building has been designed, constructed or adapted for a different purpose and is less than 10% of the floor area of the storey it is situated on, the classification of the other part of the *storey* may apply to the whole *storey*.

- **Limitation 1:** *Exemption 1* does not apply where the minor use of a building is a laboratory or a Class 2, 3 or 4 part of a building.
  - A room that contains a mechanical, thermal or electrical facility or the like that serves the building must have the same classification as the major part or principal use of the building or *fire compartment* in which it is situated.
  - Unless another classification is more suitable an *occupiable outdoor area* must have the same classification as the part of the building to which it is associated.

2.2 Fire Sources Features

Summary table for the building setbacks.

Fire Source Feature	Setback
Front Eastern Allotment Boundary	Applies > 6m to far side of road
Side Northern Allotment Boundary	Applies > 3m to boundary
Side Southern Allotment Boundary	Applies > 3m to boundary

Rear Western Allotment Boundary	Applies > 3m to boundary
Other buildings on the allotment	N/A

Table C3D3: Maximum size of fire compartments or atria

Classification	Compartment Areas	
5, 9b and 9c	Max floor area	8 000 sqm
	Max volume	48 000 cum
6, 7, 8 or 9a (except for patient care areas)	Max floor area	5 000 sqm
	Max volume	30 000 cum

3.0 BUILDING CODE OF AUSTRALIA ASSESSMENT (BCA)

Legend:

N/A	Not applicable
Applies	Applicable for project
Complies	Compliant
Capable	Capable of Compliance with design
Non-compliant	Design does not comply with Deemed-to-Satisfy provisions of BCA
Performance Solution	Performance Solution to meet the Performance Requirements of BCA

Item	Description	Status	Comments
SECTION B STRUCTURAL PROVISIONS		Applies	
B1D2	Resistance to actions	Applies	Structural engineer's details and a design statement is to be provided for all structural elements of the development to demonstrate compliance with the structural provisions of Section B. **Capable of complying**
B1D3	Determination of individual actions	Applies	Structural engineer's details and a design statement is to be provided for all structural elements of the development to demonstrate compliance. **Capable of complying**
B1D4	Determination of structural resistance of materials and forms of construction	Applies	Structural engineer's details and a design statement is to be provided for all structural elements of the development to demonstrate compliance. **Capable of complying**
B1D5	Structural software	Applies	Structural engineer's details and a design statement is to be provided for all structural elements of the development to demonstrate compliance. **Capable of complying**
B1D6	Construction of buildings in flood hazard areas	Applies	Structural engineer's details and a design statement is to be provided for all structural elements of the development to demonstrate compliance. **Capable of complying**
SECTION C FIRE RESISTANCE			
Part C2	**Fire Resistance and Stability**		

Item	Description	Status	Comments
C2D2	Type of construction	Type B Construction	The proposed development is capable of complying with the FRL requirements of Building Elements in Tables S5C21a – S5C21g of Spec 5 S5C21.
	Fire source features (Proposed Building)		Openings located within 3m of the fire source feature (boundary) are required to be protected in accordance with BCA C4D5 and all building elements required to be provided with an FRL designed to comply with BCA Spec 5. **Note**: Non-combustible building elements are required to comply with BCA C2D10 & C2D14.
	External wall to north boundary	Applies > 3m to boundary	Complies
	External wall to east boundary	Applies > 6m to far side of road (Stuart Road)	Complies
	External wall to south boundary	Applies > 3m to boundary	Complies
	External wall to west boundary	Applies > 3m to boundary	Complies
	Other buildings on site	Applies > 6m to another building on site	N/A
Spec 5	Fire-resisting construction		
Spec 5	General requirements	Noted	Noted
Spec 5	Type A Fire-Resisting Construction	N/A	N/A
Spec 5	Type B Fire-Resisting Construction	Applies	**Capable of complying**
Spec 5	Type C Fire-Resisting Construction	N/A	N/A
C2D3	Calculation of rise in storeys	Applies	No. of Storeys = 2
C2D4	Buildings of multiple classification	N/A	N/A
C2D6	Two storey Class 2, 3 or 9 buildings concession	N/A	N/A
C2D7	Class 4 parts of buildings	N/A	N/A
C2D8	Open spectator stands and indoor sports stadiums	N/A	N/A
C2D9 and Spec 6	Lightweight construction	Applies	All lightweight construction is to comply with Spec 5 and C2D10. Manufacturers specifications are to be provided to demonstrate compliance.

Item	Description	Status	Comments
			Capable of complying
C2D10	Non-combustible building elements The following table lists building elements required to be non-combustible, concrete, or masonry in a building of Type A construction. **Building elements required to be non-combustible, concrete, masonry or fire-protected timber in a building of Type A construction** **Building element** / **Type A construction** External wall / Non-combustible Common wall / Non-combustible Floor and floor framing of lift pit / Non-combustible All loadbearing internal walls (including those of shafts) / Concrete, masonry or fire-protected timber Loadbearing fire walls / Concrete, masonry or fire-protected timber Non-loadbearing walls required to be fire-resistant / Non-combustible Non-loadbearing lift, ventilation, pipe, garbage and like shafts which do not discharge hot products of combustion / Non-combustible The following table lists building elements required to be non-combustible, concrete, masonry or fire-protected timber in a building of Type B construction. **Building elements required to be non-combustible, concrete, masonry or fire-protected timber in a building of Type B construction** **Building element** / **Type B construction** External wall / Non-combustible Common wall / Non-combustible Floor and floor framing of lift pit / Non-combustible All loadbearing internal walls (including those of shafts) / Concrete, masonry or fire-protected timber Loadbearing fire walls / Concrete, masonry or fire-protected timber Non-loadbearing walls required to be fire-resistant / Non-combustible Non-loadbearing lift, ventilation, pipe, garbage and like shafts which do not discharge hot products of combustion / Non-combustible (subject to conditions outlined in C1.9(b)) It should be noted that Parts C1, C2 and C3 and the associated Specifications contain some further non-combustibility requirements for certain building elements. Note also that C1.9 and other Deemed-to-Satisfy Provisions contain a number of concessions from non-combustibility. For example, C1.13 allows fire-protected timber to be used where an element is required to be non-combustible. C1.9(f) allows a concession from the requirement for non-combustibility for minor ancillary items forming part of an external wall. These minor ancillary items include gaskets, caulking, sealants and damp-proof courses. They may be used wherever a material is required to be non-combustible. In some instances the material may contain combustible components. C1.9(e) lists materials deemed to be non-combustible. These materials may be used wherever a material is required to be non-combustible. In some instances the material may contain combustible components. The materials listed are not intended to apply to fire place hearths (see G2.3).	Applies	(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 façade 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 or 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 (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 shaft, 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 longer than necessary to achieve thermal objectives; and (B) do not extend beyond one storey; and

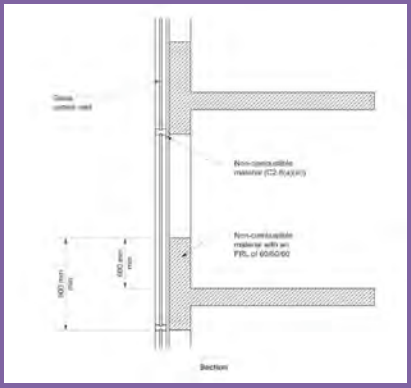
Item	Description	Status	Comments
			(C) do not extend beyond one fire compartment. (g) damp-proof courses, (h) compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50mm, (i) isolated – (i) construction packers and shims; or (ii) blocking for fixing fixtures; or (iii) fixings, including fixings accessories; or (iv) acoustic mounts. (j) waterproofing materials applies to the external face, used below ground level and up to 250mm above ground level, (k) joint trims and joint reinforcing tape and mesh of a width not greater than 50mm, (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. (5) The following materials, when entirely comprised 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,

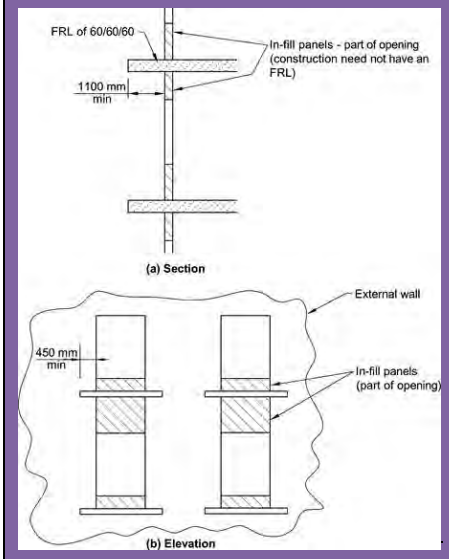
Item	Description	Status	Comments
			(d) Aluminium, including aluminium alloy, (e) Autoclaved aerated concrete, including mortar, (f) Iron, (g) Terracotta, (h) Porcelain, (i) Ceramic, (j) Natural stone, (k) Copper (l) Zinc, (m) Lead, (n) Bronze, (o) Brass. (6) The following materials may be used wherever 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 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (f) Sarking-type materials that do not exceed 1mm 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 1mm in thickness and the total thickness of the adhesive layers does not exceed 2mm; 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. **Comments**: The architect is to provide evidence of suitability under BCA A5G3 via the following; a) a current CodeMark certificate,

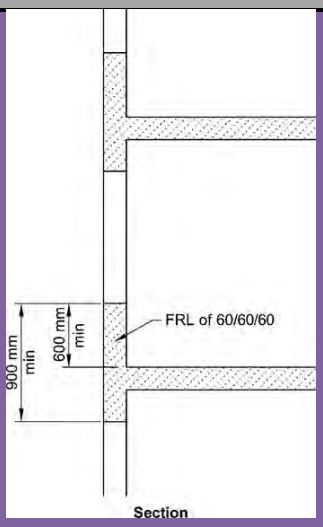
Item	Description	Status	Comments
			b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory, or d) a certificate or report from a professional engineer for each non-combustible building element. **Capable of complying**
NSW C2D11 and Spec 7.	Fire hazard properties	Applies	The fire hazard properties of the proposed floor linings and coverings, wall and ceiling linings in common areas and Specific areas (Refer to Note 2) are to be provided to the Principal Certifier prior to issue of the Construction Certificate. **Comments**: The fire hazard properties for all floor linings and coverings, wall and ceiling linings are to be provided by the manufacture in the form of the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory **Capable of complying** Air-handling ductwork – Rigid and flexible ductwork in a Class 2 to 9 building must comply with the relevant fire hazard properties set out in AS4254.1 and AS4254.2 and provided to the Principal Certifier prior to issue of the Construction Certificate. **Comments**: The rigid and flexible air-handling ductwork must comply with the relevant fire hazard properties set out in AS4254.1 and AS4254.2 in the form of the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory **Capable of complying**

Item	Description	Status	Comments
C2D12 and Spec 8	Performance of external walls in fire	N/A	N/A
C2D13	Fire protected timber "concession"	N/A	N/A
C2D14	Ancillary elements	Applies	An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following: (a) An ancillary element that is non-combustible. (b) A gutter, downpipe or other plumbing fixture or fitting. (c) A flashing. (d) A grate or grille not more than 2sqm 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 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.

Item	Description	Status	Comments
			(j) A part of a security, intercom or announcement system. (k) Wiring. (l) Waterproofing material installed in accordance with AS4654.2 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 AS3959. (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). **Comments**: The architect/structural engineer is to provide evidence of suitability under BCA A5G3 via the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory or a certificate, or d) a report from a professional engineer for each non-combustible ancillary element. **Capable of complying**
Part C3 Compartmentation and Separation		Table C2.2 Maximum size of fire compartments or atria Classification / Type A construction / Type B construction / Type C construction 5, 9b or 9c / Max *floor area*—8 000 m² Max volume—48 000 m³ / Max *floor area*—5 500 m² Max volume—33 000 m³ / Max *floor area*—3 000 m² max volume—18 000 m³ 6, 7, 8 or 9a (except for *patient care areas*) / Max *floor area*—5 000 m² Max volume—30 000 m³ / Max *floor area*—3 500 m² Max volume—21 000 m³ / Max *floor area*—2 000 m² Max volume—12 000 m³ Note to Table C2.2: See C2.5 for maximum size of compartments in *patient care areas* in Class 9a *health-care buildings*.	
C3D3	General floor area and limitations	Applies	The max floor area and volume limitations do not apply to Class 2 buildings. **Complies**
C3D4	Large isolated buildings	N/A	N/A
C3D5	Requirements for open spaces and vehicular access	N/A	N/A
C3D6	Class 9 buildings	N/A	N/A
C3D7	Vertical separation of openings in external walls	N/A	~~To Type **A** construction~~ ~~(1) If in a building of Type A construction, any part of a window or other opening~~

Item	Description	Status	Comments
			~~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 900mm in height; and~~ ~~(ii) Extends not less than 600mm 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~~ ~~(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 1100mm; and~~ ~~(ii) Extends along the wall not less than 450mm 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 car park; or~~ ~~(b) An open spectator stand; or~~

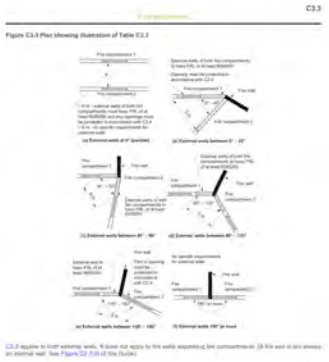
Item	Description	Status	Comments
			~~(c) A building which has a sprinkler system complying with Specification 17 installed throughout (other than a FPAA101D or FPAA101H system); or~~ ~~(d) Openings within the same stairway; or~~ ~~(e) Openings in external walls where the floor separating the storeys 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 off 60/60/60 or greater.~~ ~~**Comments**: The building is to be provided with a sprinkler system in accordance with E1D4 and Spec 17 and 18 as applicable.~~ ~~Should a FPAA101D or FPAA101H system as described in C3D7 be proposed then spandrel separation will apply. The plans will be required to indicate spandrel separation of 900mm with horizontal projections on balconies to be 1.1m and window openings setback 450mm from edge of balconies.~~  ~~The spandrel separation of 900mm and 600mm is to be provided between storeys where the 1.1m horizontal projections (balconies).~~

Item	Description	Status	Comments
			
C3D8	Separation by fire walls	N/A	~~Internal walls required to have an FRL of 90/90/90.~~
C3D9	Separation of classifications in the same storey	N/A	~~The building has a Class 7a car park located alongside Class 5 "Commercial Premises", Class 6 "Retail Premises" and Class 2 "Residential" sole-occupancy units lobby in the same storey;~~ ~~• Each building element in that storey must have the higher FRL prescribed in Specification 5 for that element for the classifications concerned; or~~ ~~• The parts must be separated in that storey by a fire wall having –~~ ~~○ The higher FRL prescribed in Specification 5 as applicable for that element for the Type of construction and the classifications concerned.~~ ~~○ Where one part is a car park complying with Specification 5, the parts may be separated by a fire wall complying with the appropriate Table.~~ ~~**Comments**: The following FRL's are to be provided to walls separating classifications in the same storey:~~ ~~Class 7a and Class 6 = FRL 180/180/180~~ ~~Class 7a and Class 2 = FRL 120/120/120~~ ~~**Note**: Fire doors are to be provided in separating walls that have the same integrity of the FRL with a concession for~~

Item	Description	Status	Comments
			~~the insulation which can be reduced to 30min.~~ ~~A floor plan identifying the required FRL and door schedule is to be provided with the structural details to confirm FRL compliance.~~
C3D10	Separation of classifications in different storeys	N/A	~~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.~~ ~~(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.~~ ~~**Comments**: The following FRL's are to be provided to floors separating classifications in different storeys.~~ ~~Class 7a and Class 2 = FRL 120/120/120~~ ~~Class 6 and Class 2 = FRL 180/180/180~~ ~~Class 2 and Class 2 = FRL 90/90/90~~ ~~A floor plan identifying the required FRL is to be provided with the structural details to confirm compliance.~~
C3D11	Separation of lift shafts	N/A	~~(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~~

Item	Description	Status	Comments
			~~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 Table 4 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 aged care 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.~~ ~~**Comments:** The lifts are enclosed in their own shaft and require an FRL of not less than 120/120/120 with lift openings to be protected.~~ ~~Structural details are required to confirm FRL compliance.~~ ~~**Note**: See Spec 18 Clause 3 – Permitted Concessions for reduced FRL's.~~
C3D12	Stairways and lifts in one shaft	N/A	The plans indicate that no stairways and lifts in one shaft.
C3D13	Separation of equipment	N/A	~~(1) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises—~~ ~~(a) lift motors and lift control panels; or~~

Item	Description	Status	Comments
			~~(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 or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.~~ ~~(2) Equipment need not be separated in accordance with (a) 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/NZS 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 (ii)—~~ ~~(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/ / .~~
C3D14	Electricity supply system	N/A	Details are to be provided for the proposed electrical supply for the building. **Note**: Emergency equipment is to be fire separated in separate switchboards from non-emergency equipment.

Item	Description	Status	Comments
C3D15	Public corridors in Class 2 and 3 buildings	Applies	In a Class 2 or 3 building, a public corridor (*enclosed*), if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with Specification 11. **Comments**: The public corridors serving the sole-occupancy units do not exceed 40m in distance. **Complies**
Part C4 **Protection of Openings**			
C4D3	Protection of openings in external walls that are required to have an FRL	N/A	~~**Comments:** The plans indicate that openings are provided within 3m of the fire source feature on the xxxx boundary that require protection in accordance with C4D5.~~
C4D4	Separation of openings in different fire compartments 	N/A	~~The distance between parts of *external walls* and any openings within them in **different *fire compartments*** separated by a ***fire wall*** must not be less than that set out in Table C4D4, unless—~~ ~~(a) those parts of each wall have an FRL not less than 60/60/60; and~~ ~~(b) any openings protected in accordance with C4D5.~~ ~~**Comments**: The building has external walls and openings within them in different fire compartment that require an FRL and protection in accordance with C4D4 and C4D5.~~
C4D5	Acceptable methods of protection	N/A	~~The windows and doors are required to be provided with the following;~~ ~~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.~~ ~~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~~

Item	Description	Status	Comments
			~~(ii) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or~~ ~~(iii) –/60/– automatic closing fire shutters.~~ ~~Other openings –~~ ~~(i) Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or~~ ~~(ii) Construction having an FRL not less than –/60/–.~~ ~~**Comments**: Openings in the xxxx elevation that are within 3m of the boundary are required to be protected.~~ ~~Nib walls have been proposed as a permanent measure to protect the openings. The nib wall is required to have the same FRL as the external wall of 90/90/90. Details to be provided.~~
C4D6	Doorways in fire walls	N/A	~~Self-closing fire doors are to be provided in separating walls that have the same integrity of the FRL required with a concession for the insulation which is to be 30min.~~ ~~A door schedule is to be provided to confirm compliance.~~
C4D7	Sliding fire doors	N/A	N/A
C4D8	Protection of doorways in horizontal exits	N/A	~~(1) A doorway that is part of a *horizontal exit* must be protected by either—~~ ~~(a) a single fire door that has an FRL of not less than that *required* by Specification 5 for the *fire wall* except that the door must have an *insulation* level of at least 30; or~~ ~~(b) in a Class 7 or 8 building — 2 fire doors, one on each side of the doorway, each with an FRL of not less than that *required* by Specification 5 for the *fire wall* except that each door must have an *insulation* level of at least 30.~~ ~~(2) Each door *required* by (a) must be *self-closing*, or *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~~

Item	Description	Status	Comments
			~~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.~~ ~~(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 in either *fire compartment* separated by the *fire wall* must also initiate the *automatic* closing operation.~~ ~~**Comments**: The horizontal exit leading from the car parking 2 is to be provided with a self-closing fire door.~~ ~~**Note**: See D2D16 for further information.~~
C4D9	Openings in fire-isolated exits	N/A	~~(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 (a) 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.~~ ~~(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*~~

Item	Description	Status	Comments
			~~*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.~~ ~~**Comments**: A door schedule is to be provided to confirm compliance.~~
C4D10	Service penetrations in fire-isolated exits	N/A	~~Fire-isolated exits must not be penetrated by any services other than—~~ ~~(a) electrical wiring permitted by D3D8 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) water supply pipes for fire services.~~
C4D11	Openings in fire-isolated lift shafts	N/A	~~(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 35 000sqmm in area.~~ ~~**Comments:** Lift manufacturer details and certification is to be provided to the Principal Certifying Authority to confirm design compliance for the openings in fire-isolated lift shafts.~~
C4D12	Bounding construction: Class 2, 3 & 4 buildings	Applies	Type B ~~or C~~ Construction – Sole-occupancy unit entry doors shall be provided with self-closing, tight fitting, solid core doors, not less than 35mm thick. **Comments**: A door schedule is to be provided to confirm compliance. **Capable of complying**

Item	Description	Status	Comments
C4D13	Openings in floors for services	Applies	(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 (b). (2) A service must be protected— (a) in a building of Type A construction, by a shaft complying with Spec 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. **Comments:** An approved system from the manufacture is to be provided to maintain the FRL for services that pass through a floor, wall or ceiling in the form of the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory **Capable of complying**
C4D14	Openings in shafts	N/A	~~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.~~

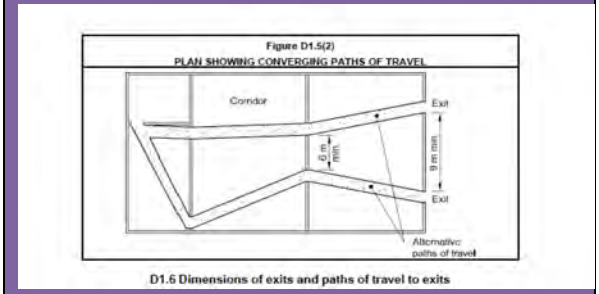
Item	Description	Status	Comments
C4D15	Openings for service installations **Note**: Should an insulation used as a thermal break to comply with Section J be proposed the service penetrations, are not to be covered by the lining and therefore, cutback and then taped where the foam is exposed. This only applies to bottom down fire stopping systems such as fire collars and only requires the steel ring of the collar to be exposed.	Applies	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, that installation must comply with any one of the following: (a) Tested systems (i) The service, building element and any protection method at the penetration 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. (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. (b) Ventilation and air-conditioning — In the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS/NZS 1668.1. (c) Compliance with Specification 13 (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

Item	Description	Status	Comments
			(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— (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 C1.1 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. **Comments:** An approved system from the manufacture is to be provided to maintain the FRL for services that pass through a floor, wall or ceiling in the form of the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory **Note:** It is recommended that the services of a passive fire safety systems practitioner be engaged to review the systems, undertake inspections and provide a penetration register and certification of the as installed systems.

Item	Description	Status	Comments
			Capable of complying
C4D16	Construction joints	Applies	(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 prototypes 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 (a) do not apply where joints, spaces and the like between fire-protected timber elements are provided with cavity barriers in accordance with Specification 9. **Comments:** An approved system from the manufacture is to be provided to maintain the FRL for construction joints in the form of the following; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory **Capable of complying**
C4D17	Columns protected with lightweight construction to achieve an FRL	N/A	~~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*.~~ ~~**Comments**: A system of design is to be provided should columns be protected with lightweight construction to achieve an FRL.~~

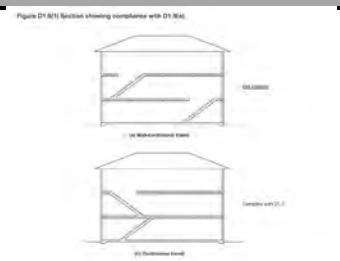
Item	Description	Status	Comments
SECTION D ACCESS & EGRESS			
Part D2	**Provision for Escape**		
D2D2	Application of part	Applies	**Capable of complying**
D2D3	Number of Exits required	Applies	All buildings – Every building must have at least one exit from each storey. **Complies** Class 2 – (b) Class 2 to 8 buildings — 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 25m. (ii) A Class 2 or 3 building subject to C2D6. Why do some buildings require multiple exits? The purpose of regulatory control over the number of exits in a building is to maximise the opportunities for people to have egress from the building in an emergency. Egress from some buildings can be very difficult (for example, particularly tall or large buildings, or even small buildings which have a complex passageway design). It may be necessary to provide several alternative exits. ~~Class **2** to Class 8 buildings — D2D3~~ ~~The D2D3 provision regarding an effective height of 25 metres recognises the effective operating height for fire brigade ladders and other fire-fighting and rescue equipment. Above this height, fire-fighting, rescue and egress problems increase considerably.~~ **Comments**: The building does not have an effective height of more than 25m and is not subject to C2D6. Each storey is provided with at least one exit. **Complies**

Item	Description	Status	Comments
D2D4	When fire isolated exits are required	N/A	(1) ~~Class 2 and 3 buildings –~~ ~~(a) 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 complying with Specification 17 installed throughout; or~~ ~~(iii) The require 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.~~ ~~**Comments:** The stairways are required to be fire isolated as the connect, pass through or passes by more than 3 consecutive storeys.~~ ~~**Note:** The lift overrun and stairway are not considered to be a storey by definition leading to the roof top.~~ (2) ~~Class 5, 6, 7, 8 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 9c aged care building, it connects,~~

Item	Description	Status	Comments
			~~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 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~~ ~~(B) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if loadbearing; and~~ ~~(C) no opening that could permit the passage of fire or smoke.~~
D2D5	Exit travel distances	Applies	Class 2 – 6m from an exit or from a point from which travel in different direction to 2 exits is available and 20m for ground sole-occupancy units having access to a single exit serving the storey at the level of egress to a road or open space. **Complies**
D2D6	Distance between alternative exits	N/A	Class 2 – Located not less than 9m apart. **N/A** Class 2 – Not more than 45m apart. **N/A** All Classes – Not converge closer than 6m.  D1.6 Dimensions of exits and paths of travel to exits **N/A**

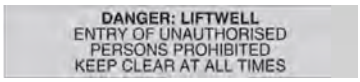
Item	Description	Status	Comments
D2D7 – D2D11	Dimensions of exits	Applies	The unobstructed height throughout a required exit or path of travel to a required exit must be not less than 2m, except the unobstructed height of doorway may be reduced to not less than 1980mm. **Capable of complying** A minimum 1m clear path of travel to exits is to be provided. **Note**: At the doorway the opening width may be reduced by 250mm. **Comments:** The common corridors and stairways are required to have an unobstructed width of 1m. **Capable of complying** **Note:** See also clause D2D18 in the report to determine the aggregate unobstructed width, the number of persons accommodated must be calculated.
D2D12	Travel via fire-isolated exits	N/A	~~(a) 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—~~ ~~(i) a public corridor, public lobby or the like; or~~ ~~(ii) a sole-occupancy unit occupying all of a storey; or~~ ~~(iii) a sanitary compartment, airlock or the like.~~ ~~(b) 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—~~ ~~(i) to a road or open space; or~~ ~~(ii) to a point—~~ ~~(A) 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 2/3 of its perimeter; and~~ ~~(B) from which an unimpeded path of travel, not further than 20 m, is~~

Item	Description	Status	Comments
			~~available to a road or open space; or~~ ~~(iii) into a covered area that—~~ ~~(A) adjoins a road or open space; and~~ ~~(B) is open for at least 1/3 of its perimeter; and~~ ~~(C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and~~ ~~(D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m.~~ ~~(c) Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, 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,~~ ~~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.~~ ~~(d) 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—~~ ~~(i) a smoke lobby in accordance with D3D7 must be provided; or~~ ~~(ii) the exit must be pressurised in accordance with AS/NZS 1668.1.~~ ~~(e) A ramp must be provided at any change in level less than 600 mm in a fire-isolated passageway in a Class 9 building.~~
D2D13	External stairways in lieu of fire-isolated stairways	N/A	N/A
D2D14	Travel by non-fire-isolated stairways or ramps	Applies	(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

Item	Description	Status	Comments
			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) 15m 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) 30m 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.~~

Item	Description	Status	Comments
			~~(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 –~~ ~~(a) provide separate egress to a road or open space; and~~ ~~(b) be suitably smoke-separated from each other at the level of discharge.~~ **Note**: See D3D7 for further requirements.
D2D15	Discharge from exits	Applies	(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) 1m, 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. 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. **Comments:** 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. **Complies**

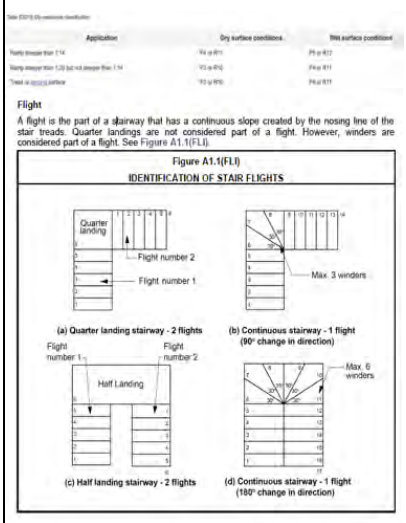
Item	Description	Status	Comments
D2D16	Horizontal exits	N/A	~~(1) horizontal exits must not be counted as required exits—~~ ~~(a) between sole-occupancy units; or~~ ~~(b) in a Class 9b building used as an early childhood centre, primary or secondary school.~~ ~~(2) In a Class 9a health-care building 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 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 fire 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) 2.5sqm per patient/resident in a Class 9a health-care building or Class 9c aged care building; and~~ ~~(b) 0.5sqm 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 (d) is to be of a size that accommodates all the occupants from the fire compartment being evacuated.~~ ~~(6) The clear area required by (d) 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.~~ ~~**Note**: See C4D8 of the report for further information.~~
D2D17	Non-required stairways, ramps or escalators	N/A	N/A
D2D18	Number of persons accommodated	N/A	N/A

Item	Description	Status	Comments
D2D19 & D2D20	Measurement of distances and method of measurement	Noted	Noted
D2D21	Plant rooms and lift monitor rooms: concession	N/A	N/A
D2D22	Access to lift pits  	N/A	Access to lift pits must— (a) where the pit depth is not more than 3m, be through the lowest landing doors; or (b) where the pit depth is more than 3m, be provided through an access doorway complying with the following: (i) In lieu of D2D7-D2D11, the doorway must be level with the pit floor and not be less than 600mm wide by 1980mm high clear opening, which may be reduced to 1500mm 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 PROHIBITED – KEEP CLEAR AT ALL TIMES" **Comments:** The plans are in preliminary draft. Further assessment is required.
D2D23	Egress from primary schools **Explanatory information:** D2D23 (1) recognises the difficulties associated with evacuation of primary schools. Should a primary school be proposed within a	N/A	~~(1) Every part of a Class 9b primary school must be wholly within a storey that provides direct egress to a road or open space.~~ ~~(2) The requirements of (1) do not apply to a building with a rise in storeys of 4 or less, where the primary school is the only use in that building.~~

Item	Description	Status	Comments
	storey that does not meet the requirements of D2D23, a *Performance Solution* is to be used to demonstrate compliance with the relevant *Performance Requirements*.		
Part D3 Construction of Exits			
D3D2	Application of part	Applies	**Capable of complying**
D3D3	Fire-isolated stairways and ramps	N/A	~~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.~~
D3D4	Non-fire-isolated stairways and ramps	N/A	~~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 pre-stressed 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 44mm; and~~ ~~(ii) has an average density of not less than 800kg/cum 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.~~ ~~**Comments**: Structural details required.~~
D3D5	Separation of rising and descending stair flights	N/A	~~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~~

Item	Description	Status	Comments
			~~(ii) smoke proof in accordance with S11C2.~~
D3D6	Open access ramps and balconies	N/A	N/A
D3D7	Smoke lobbies	N/A	~~A smoke lobby *required* by D2D12 must—~~ ~~(a) have a *floor area* not less than 6sqm; and~~ ~~(b) be separated from the occupied areas in the *storey* by walls which are impervious to smoke, and—~~ ~~(i) have an FRL of not less than 60/60/– (which may be fire-protective grade plasterboard, gypsum block with set plaster, face brickwork, glass blocks or glazing); and~~ ~~(ii) extend from slab to slab, or to the underside of a ceiling with a *resistance to the incipient spread of fire* of 60 minutes which covers the lobby; and~~ ~~(iii) any construction joints between the top of the walls and the floor slab, roof or ceiling must be smoke sealed with intumescent putty or other suitable material; and~~ ~~(c) at any opening from the occupied areas, have smoke doors complying with Spec 12 except that the smoke sensing device need only be located on the approach side of the opening; and~~ ~~(d) be pressurised as part of the *exit* if the *exit* is *required* to be pressurised under E2D3.~~
D3D8	Installations in exits and paths of travel	Applies	Services or equipment comprising electricity meters, distribution boards or ducts or central telecommunications distribution boards or equipment or electrical motors or other motors serving equipment in the building, may be installed in a required exit, in any corridor, hallway, lobby or the like leading to a required exit if the services or equipment are enclosed by non-combustible construction or a fire protective covering with doorways and openings suitably sealed against smoke spreading from the enclosure. **Capable of complying**

Item	Description	Status	Comments
D3D9	Enclosure of space under stairs and ramps	Applies	The space below the required fire-isolated stairway must not be enclosed to form a cupboard or similar enclosed space. **Capable of complying** The space below a required non-fire isolated stairway must not be enclosed to form a cupboard or other enclosed space unless the enclosing walls & ceilings have an FRL of not less than 60/60/60 and any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.
D3D10	Width of stairways – Required by **D2D7 – D2D11 (Dimensions of Exits)**	N/A	External stairway widths do not exceed 2m. ~~Or~~ ~~The external stairway leading to the forecourt is to be divided by a continuous handrail/barrier with widths that do not exceed 2m.~~ ~~**Note**: See clauses D3D22 and D4 in the report for further requirements.~~
D3D11	Pedestrian ramps, also reference Part D4 & AS1428.1	Applies	~~(1) A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the width and ceiling height comply with the requirements for a fire-isolated stairway.~~ (2) A ramp serving as a required exit must— (a) where the ramp is also serving as an accessible ramp under Part D4, be in accordance with AS 1428.1; or (b) in any other case, have a gradient not steeper than 1:8. (3) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586. Table D3D15 Slip-resistance classification Application / Dry surface conditions / Wet surface conditions Ramp steeper than 1:14 / P4 or R11 / P5 or R12 Ramp steeper than 1:20 but not steeper than 1:14 / P3 or R10 / P4 or R11 Treads or landing surface / P3 or R10 / P4 or R11 Nosing or leading edge strip / P3 / P4 **Capable of complying**
D3D12	Fire-isolated passageways	N/A	~~(1) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the~~

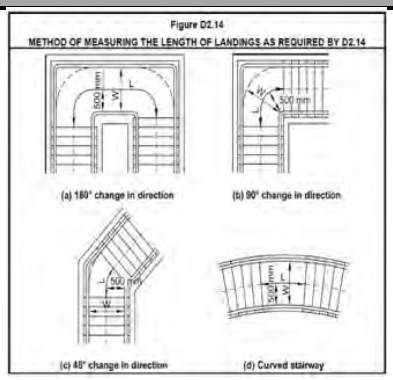
Item	Description	Status	Comments
			~~passageway in another part of the building of—~~ ~~(a) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or~~ ~~(b) in any other case — not less than 60/60/60.~~ ~~(2) Notwithstanding (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~~ ~~(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 rooflights or other openings within 3m of the path of travel of persons using the exit to reach a road or open space.~~
D3D14	Treads and risers  Flight A flight is the part of a stairway that has a continuous slope created by the nosing line of the stair treads. Quarter landings are not considered part of a flight. However, winders are considered part of a flight. See Figure A1.1(FLI). Figure A1.1(FLI) IDENTIFICATION OF STAIR FLIGHTS Quarter landing Flight number 2 Flight number 1 (a) Quarter landing stairway - 2 flights Max. 3 winders (b) Continuous stairway - 1 flight (90° change in direction) Flight number 1 Flight number 2 Half Landing (c) Half landing stairway - 2 flights Max. 6 winders (d) Continuous stairway - 1 flight (180° change in direction)	Applies	(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 D3D15, 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

<table>
<tr><th>Item</th><th>Description</th><th>Status</th><th>Comments</th></tr>
<tr><td></td><td></td><td></td><td>(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
(2) In the case of a required stairway, no winders in lieu of a landing.

Comments: A stair detail and section including opaque/enclosed risers, non-slip nosings and one tread width offset landing/step on the lower flight is required to facilitate accessible compliant handrails is to be provided to confirm compliance.

Capable of complying</td></tr>
<tr><td>D3D15</td><td>Landings

Table D2.14 SLIP-RESISTANCE CLASSIFICATION
<table><tr><th rowspan="2">Application</th><th colspan="2">Surface conditions</th></tr><tr><th>Dry</th><th>Wet</th></tr><tr><td>Ramp steeper than 1:14</td><td>P4 or R11</td><td>P5 or R12</td></tr><tr><td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3 or R10</td><td>P4 or R11</td></tr><tr><td>Tread or landing surface</td><td>P3 or R10</td><td>P4 or R11</td></tr><tr><td>Nosing or landing edge strip</td><td>P3</td><td>P4</td></tr></table></td><td>Applies</td><td>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—
(A) a surface with a slip resistance classification not less than that listed in Table D3D15 when</td></tr>
</table>

Item	Description	Status	Comments
			tested in accordance with AS 4586; 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. **Comments**: A stair detail and section is to be provided to confirm compliance. **Capable of complying**

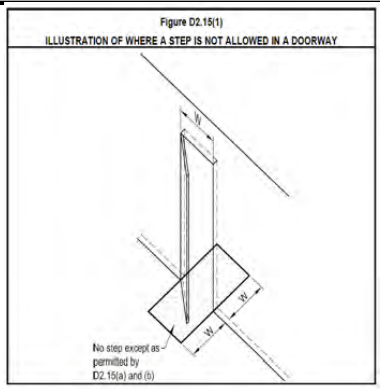
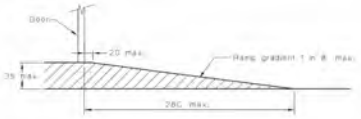
Extraction from Standards Australia Handbook 197:1999

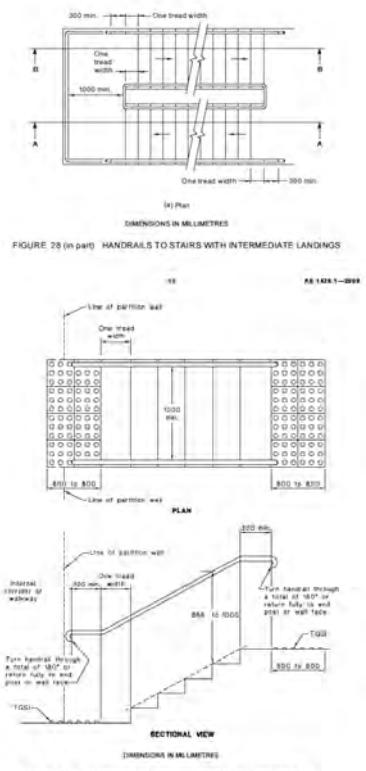
TABLE 3

PEDESTRIAN FLOORING SELECTION GUIDE – MINIMUM PENDULUM OR RAMP RECOMMENDATIONS FOR SPECIFIC LOCATIONS

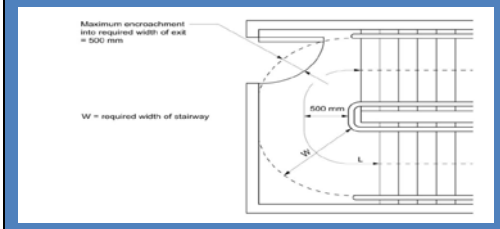
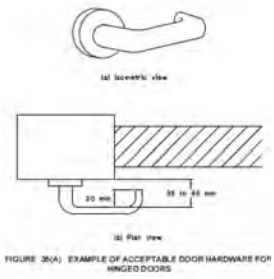
Location	Pendulum	Ramp
External colonnade, walkway and pedestrian crossings	W	R10
External ramps	V	R11
Entry foyers hotel, office, public buildings - wet	X	R10
Entry foyers hotel, office, public buildings - dry	Z	R9
Shopping centre excluding food court	Z	R9
Shopping centre – food court	X	R10
Internal ramps, slopes (greater than 2 degrees) - dry	X	R10
Lift lobbies above external entry level	Z	R9
Other separate shops inside shopping centres	Z	R9
Other shops with external entrances – entry area	X	R10
Fast food outlets, buffet food servery areas	X	R10
Hospitals and aged care facilities – dry areas	Z	R9
Hospital and aged care facilities – ensuites	X	A or R10
Supermarket aisles except fresh food areas	Z	R9
Shop and supermarket fresh fruit and vegetable areas	X	R10
Communal changing rooms	X	A
Swimming pool surrounds and communal shower rooms	W	B
Swimming pool ramps and stairs leading into water	V	C
Toilet facilities in offices, hotels, shopping centres	X	R10
Undercover concourse areas of sports stadium	X	R10
Accessible internal stair nosings (dry) – handrails present	X	R10
Accessible internal stair nosings (wet) – handrails present	W	B or R11
External stair nosings	W	R11

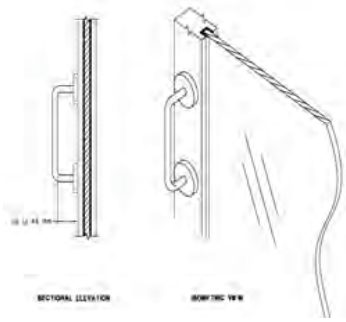
D3D16	Thresholds	Applies	The threshold of a doorway must not incorporate a step or ramp at any point

Item	Description	Status	Comments
	 **Concessions**—D2.15(a), (b) and (c) Concessions are granted in specified circumstances. These include: • D2.15(a)—in the patient care areas of a hospital; and • D2.15(b)—in Class 9c buildings; and • D2.15(c)—in a building required to be accessible by Part D3. • D2.15(d)—in other buildings, to allow for weatherproofing under an external door.  DIMENSIONS IN MILLIMETRES FIGURE 21 THRESHOLD RAMP		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 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 NSW D3D16 (d) 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. **Comments**: A landing detail is to be provided to confirm compliance. **Capable of complying**
D3D17	Barriers to prevent falls – Balustrades/Stairways	Applies	Balustrades are to be a minimum of 1m in height and have no openings greater than 125mm. In addition to the above where floors are more than 4m above the surface beneath, any horizontal or near horizontal elements between 150mm and 760mm above the floor must not facilitate climbing. **Comments**: A balustrade detail and section is to be provided to confirm compliance. **Capable of complying**
D3D22	Handrails Accessible stairway handrails	Applies	Handrails in required non-fire-isolated exits and fire isolated exits are to be continuous between stair flight landings and have no

Item	Description	Status	Comments
			obstruction on or above them that will tend to break a hand-hold. **Comments**: A stair detail and section is to be provided to confirm compliance. **Capable of complying** <u>Stairways/Ramps required to be accessible</u> Handrails are to be located on both sides of ramps and stairways in required exits where they are required to be accessible to comply with Clause 12 of AS1428.1-2009. **Comments**: A stair/ramp detail and section including offset landing/step on the lower flight is required to facilitate accessible compliant handrails is to be provided to confirm compliance. Refer to diagram (left) from AS1428.1-2009 which illustrates the one tread width offset. **Note**: The entry ramp from Stuart Road that terminates at the property boundary is to allow for the handrail extensions and tactile indicators to be wholly within the subject allotment. **See** Figure 26(A) of AS1428.1-2009. **Capable of complying**
D3D23	Fixed platforms, walkways, stairways and ladders	N/A	N/A
D3D24	Doorways and doors	N/A	(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 200sqm; and~~ ~~(ii) the doorway is the only required exit from the building or part; and~~

Item	Description	Status	Comments
			~~(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.~~ ~~(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 (b), 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.~~ ~~**Comments**: The required exit sliding door leading from the activity room 1 must be able to be opened manually under a force of not more than 110N.~~
D3D25	Swinging doors	Applies	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*— (A) stairway; or (B) ramp; or (C) passageway, if it is likely to impede the path of travel of the people already using the *exit*; and

Item	Description	Status	Comments
			 (ii) when fully open, by more than 100 mm on the *required* width of the *required exit*, and the measurement of encroachment in each case is to include door handles or other furniture or attachments to the door, **Complies** and (b) must swing in the direction of egress, unless – (i) it serves a building or part with a floor area not more than 200sqm, 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. **Complies**
D3D26	Operation of latch Lever Action Door Hardware  Sliding Door Hardware	Applies	Except in early childhood centres, swimming pool barriers or similar situations where the location of the opening and locking controls is prescribed by the relevant statutory authority, the location of the controls for doors and gates shall be above a level surface and as follows: Lever downward action door hardware located between 900mm and 1100mm above the floor that is readily openable without a key from the side seeking egress is to be installed on all path of travel and required exit doors. **Comments**: The CC plans to confirm compliance in the form of door schedule. **Capable of complying** Doorways serving areas required to be accessible in accordance with D4 BCA are to be provided with lever downward action door hardware that the hand of a person who cannot grip will not slip from the

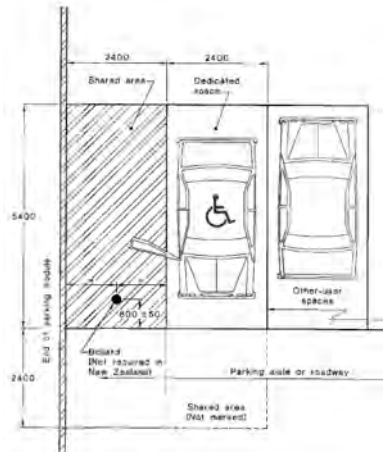
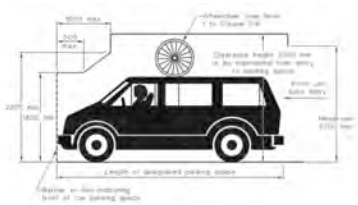
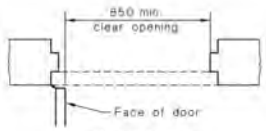
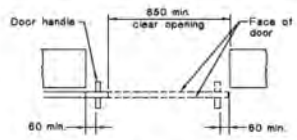
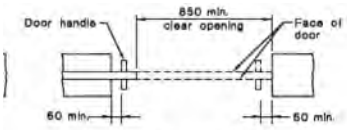
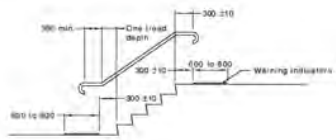
Item	Description	Status	Comments
	 <u>Panic Bar Door Hardware</u> 		handle during operation of the latch and have clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm. **Comments**: The CC plans to confirm compliance in the form of door schedule. **Capable of complying**
D3D27	Re-entry from fire isolated exits	N/A	~~(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 aged care building.~~ ~~(d) In a fire-isolated exit serving any storey above an effective height of 25m, throughout the exit.~~ ~~(2) The requirements of (a) 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~~

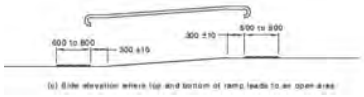
Item	Description	Status	Comments
			~~explaining its purpose and method of operation.~~ ~~(3) The requirements of (1)(b) do not apply to a door fitted with a fail-safe device that automatically unlocks the door serving the Class 9b early childhood centre upon the activation of a fire alarm.~~
D3D28	Signs on fire doors FIRE DOOR—TO AS 1905.1—2005 FRL –/60/30 MANUFACTURED BY (COMPANY NAME) PTY LTD APPLICANT—(NAME) PTY LTD CERTIFIER—(COMPANY NAME) PTY LTD DOOR TAG NUMBER—G 123 YEAR OF MANUFACTURE—2005 Clearances under and the side of fire doors are to be in accordance with AS1905:2005 (Company Name) FIRE DOOR CERTIFICATE Certificate Number 12345 Project Name: ..... Building Owner: ..... Building Address: ..... The member company nominated certifies that the fire doorsets identified on the attached Schedule have been inspected and labelled as required by the appropriate regulatory authorities in accordance with Australian Standard AS 1905.1 in respect to the Evidence of Compliance at Clause 6.3 and additionally comply in respect to supply, labelling and installation in accordance with the following Australian Standards: AS 1530.4 Methods for fire tests on building materials, components and structures. Part 4: Fire resistance test of elements of building construction AS 1905.1 Components for the protection of openings in fire-resistant walls. Part 1: Fire-resistant doorsets Certified by: ..... Member Company Name of Certifier: ..... Signature: ..... Date: ..... Doorsets covered by this certificate are to be maintained in accordance with AS 1851 and the manufacturer's instructions. FIGURE E1 EXAMPLE OF A FIRE DOOR CERTIFICATE	N/A	~~(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, a—~~ ~~(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,~~ ~~on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and~~ ~~(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,~~ ~~on each side of the door.~~ ~~(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—~~ ~~(a) for an automatic door held open by an automatic hold-open device—~~

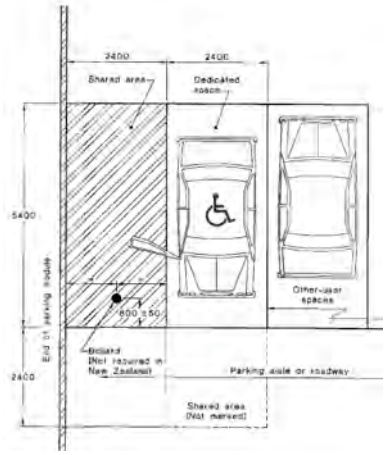
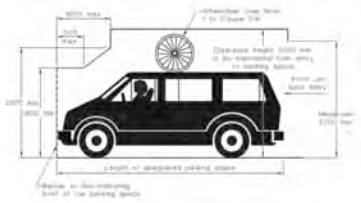
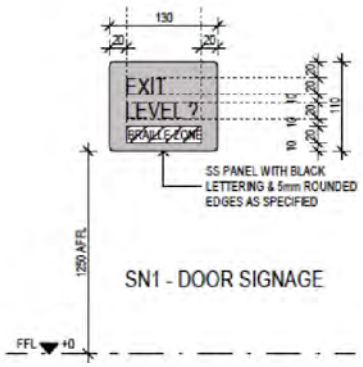
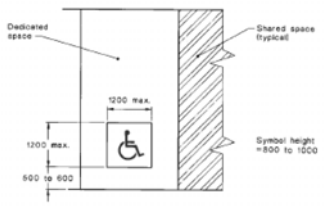
Item	Description	Status	Comments
	Fire doors—Schedule of Evidence of Compliance—Certificate Number 12345 Project Name: ..... Building Owner: ..... Building Address: ..... Door identification & tag number | Location | Door type | Frame type | Nominal dimensions (mm): Reveal width, Reveal height, Leaf thickness | FRL | Facing & edging material type | Lockset & closer type | Miscellaneous (vision panel) | Test ref. opinion | Inspection date & certifier When completed, this Schedule is to be attached to and become part of the FIRE DOOR CERTIFICATE, which it supports. The fire doorsets identified in the Schedule comply with AS 1530.4 and AS 1905.1 with respect to the supply, labelling and installation of the doorset.		~~"FIRE SAFETY DOOR—DO NOT OBSTRUCT"~~ ~~or~~ ~~(b) for a self-closing door—~~ ~~"FIRE SAFETY DOOR~~ ~~DO NOT OBSTRUCT~~ ~~DO NOT KEEP OPEN"~~; ~~or~~ ~~(c) for a door discharging **from** a fire-isolated exit—~~ ~~"FIRE SAFETY DOOR—DO NOT OBSTRUCT."~~ ~~**See example below;**~~ FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR DO NOT OBSTRUCT WARNING: SLIDING FIRE DOOR ~~**Note**: In accordance with Section 108 of the EP&A (DC&FS) Reg 2021 a fire safety notice be displayed in the following areas of the building;~~ ~~A fire safety notice is to be displayed at all times in a conspicuous position adjacent to a doorway providing access to, but not within, that fire stairway, passageway or ramp. The notice is to display **the following words**;~~

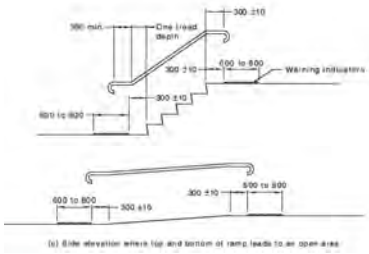
Item	Description	Status	Comments
			OFFENCES RELATING TO FIRE EXITS By virtue of the regulations under the Environmental Planning And Assessment Act 1979, it is an offence: (a) to place anything in this exit that may impede the free passage of persons, or (b) to interfere with or cause obstruction or impediment to, the operation of the doors providing access to this exit, or (c) to remove, damage or otherwise interfere with this notice. ~~**Note:** All fire doors and frames are to be tagged in accordance with AS 1905-2005 and a complete door schedule to be provided prior to issue of the Occupation Certificate.~~
D3D29	Protection of openable windows	Applies	(1) A window opening must be provided with protection, if the floor below the window is 2m 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. (2) Where the lowest level of the window opening is less than 1.7m 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 125mm sphere to pass through the window opening or screen; and (ii) resist an outward horizontal action of 250N against the – (A) window restrained by a device; or (B) screen protecting the opening; and

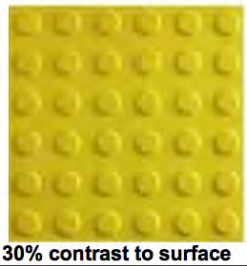
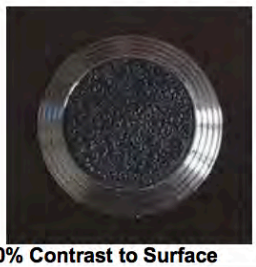
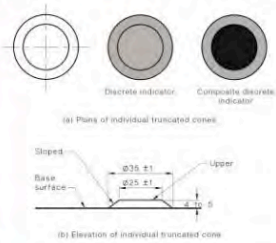
Item	Description	Status	Comments
			(iii) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden. (3) A barrier with a height not less than 865mm above the floor is require to an openable window – (a) in addition to window protection, when a child resistant release mechanism is required by (2)(b)(iii); and (b) where the floor below the window is a 4m 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 125mm sphere to pass through it; and (b) have any horizontal or near horizontal elements between 150mm and 760mm 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 300mm sphere to pass through it. **Capable of complying** – statement to be provided prior to issue of OC
Part D4 **Access for People with a Disability**			
D4D2	General Building Access Requirements	Applies	Class 2 – Common areas Access for people with a disability is to be provided from a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units and to each entrance doorway of each sole-occupancy unit located on that level. It should be noted that a lift is provided to serve each storey.

Item	Description	Status	Comments
			Capable of complying
D4D3	Access to Buildings    (a) Swing door  (c) Surface-mounted sliding door DIMENSIONS IN MILLIMETRES  (b) Cavity sliding door  	Applies	Access and AS 1428.1-2009 – (a) Access is to be provided via a walkway, ramp or lift from street to the principal entrance/s of the building. (b) The shared area adjacent to the accessible car space is to be provided with a bollard to prevent vehicles parking (AS 2890.6). (c) A level walkway 1m wide is to be provided from the shared accessible car space to the principal entrance of the building. (d) All door openings on the ground floor are to have a clear opening of 850mm (920mm door), with exception the W.C and storage areas. (e) Circulation spaces to doorways are to comply with AS 1428.1-2009. (f) Tactile ground surface indicators are to be installed on top and bottom of landings of the required non fire – isolated stairways and ramps. (g) A scaled 1:50 floor and internal elevation plan is to be provided for the uni-sex accessible sanitary facility and ambulant facility. (Should one be required by F4D5) **Comments**: Design details/sections are required to confirm access compliance. **Capable of complying**

Item	Description	Status	Comments
	 **Note**: Walkway – Gradient 1:20 Ramp – Gradient 1:14 Accessible shared car space – Gradient 1:40 or 1:33 (Bituminous seal)		
D4D4	Parts of Buildings to be Accessible	Applies	Parts of the building required to be accessible – (a) every ramp and stairway must comply with Cl10 (ramps) and Cl11 (stairs) of AS 1428.1; circulation spaces must comply with AS1428.1. **Note**: Except for a fire isolated stairway, only Cl11.1(f) and (g) of AS1428.1 applies. (b) every passenger lift must comply with E3.6 (c) external/internal accessways must have passing spaces complying with AS 1428.1-2009 at a maximum of 20m intervals, where direct line of sight is not available; and (d) turning spaces complying with AS 1428.1-2009 within 2m of the end of accessways where it is not possible to continue traveling along the accessway and at maximum 20m intervals along the accessway. **Definition** – Accessway means a continuous accessible path of travel (as defined in AS 1428.1) to, into or within a building. **Note:** Passing space for 2 persons using wheelchairs shall be a minimum width of 1800 mm for a minimum length of 2000 mm. **Comments:** Design details/sections are required to confirm access compliance. **Capable of complying**
D4D5	Exemptions	N/A	N/A
D4D6	Accessible Car parking	Applies	In accordance with D4D6 – A shared accessible car space is to be provided in the car park with access to lift to serve all storeys provided.

Item	Description	Status	Comments
	  **Note**: Gradients for shared accessible car spaces are not to exceed 1:40 in any direction and 1:33 for bituminous seal as per AS2890.6.		Plans to confirm compliance with AS2890.6. **Capable of complying**
D4D7	Signage  	Applies	In a building required to be accessible – Braille and tactile signage complying with Specification 15 and incorporating the international symbol of access or deadness, as appropriate, in accordance with AS 1428.1 must identify each – - Sanitary facility, - Ambulant toilet facility, - Any required accessible carparking space and AS 2890.6, - Where needed, directional signage to any Carparking space or sanitary facility. - At Each 'Exit' and which 'Level' an occupant is at also needs to be in braille. Where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to direct a

Item	Description	Status	Comments
			person to the location of the nearest accessible unisex sanitary facility **Capable of complying**
 Please consult with your Access Consultant for the appropriate location and required directional signage. 			
D4D9	Tactile Indicators 	Applies	For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment in accordance with this clause. I.e.: - A stairway, other than a fire-isolated stairway, - An escalator, - A passenger conveyor of moving walk, - A ramp other than a fire-isolated ramp, step ramp, kerb ramp or swimming pool ramp, - In the absence of a suitable barrier an overhead obstruction less than 2m above floor level, other than a doorway. Tactile ground surface indicators required by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1 **Comments**: Details/sections required to confirm compliance for ramps and stairways to AS 1428.4. **Capable of complying**

Item	Description	Status	Comments
There are three (3) distinct types of TGSI, these each need to be assessed as to the most appropriate based on the surface it is to be applied and lighting conditions. AS1428.4.1 – 2009 clearly provides installation requirements.  30% contrast to surface 45% Contrast to Surface  60% Contrast to Surface 			
D4D10	Wheelchair seating spaces in Class 9b Assembly Buildings	N/A	N/A
D4D11	Swimming Pools	N/A	N/A
D4D12	Ramps	Applies	On an accessway – (a) A series of connected ramps must not have a combined vertical rise of more than 3.6m; and (b) A landing for a step ramp must not overlap a landing for another step ramp or ramp. **Capable of complying**
D4D13	Glazing on an Accessway	Applies	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1. Design verification to be provided prior to the issue of the Construction Certificate. **Capable of complying**
SECTION E SERVICES & EQUIPMENT			
Part E1 Fire Fighting Equipment		Applies	**Capable of complying**
E1D2	Fire Hydrants	Applies	(1) A fire hydrant system must be provided to serve a building— (a) having a total *floor area* greater than 500sqm; 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 utilising a fire hydrant. (2) The fire hydrant system must be installed in accordance with AS 2419.1.

Item	Description	Status	Comments
			(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) On 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*. ~~Where a sprinkler system is installed throughout a building in accordance with AS 2118.1, AS 2118.4, AS 2118.6, FPAA101H or FPAA101D the fire hydrant booster protection requirements of Clauses 7.6.2 and 7.6.3 of AS 2419.1 do not apply.~~ Clause 7.6.2(a) – A fire hydrant booster assembly located within or affixed to the external wall of the building is to be protected by walls, floors and/or ceilings, as applicable, that – (i) have an FRL not less than 90/90/90; (ii) Extend to a distance of not less than 2m each side of the centre-line of the outermost fire hydrant pipe risers within the assembly; and (iii) Extend to a height not less than 3m above ground level. Clause 7.6.2(b) – A fire hydrant booster assembly located not more than 3.5m from the external wall and remote from the building is to be protected by – (i) The external wall of the building that

Item	Description	Status	Comments
			confirms to Clause 7.6.2(a); or (ii) A freestanding wall or similar construction that – (A) Has an FRL not less than 90/90/90; (B) Extends to a distance of not less than 2m each side of the centre-line of the outermost fire hydrant pipe risers within the assembly; (C) Extends to a height not less than 3m above ground level; and (D) Is located immediately behind the fire hydrant and between the building and the fire hydrant. Clause 7.6.2(c) – A fire hydrant booster assembly located more than 3.5m and not more than 10m from the external wall, it shall be protected by a freestanding wall, fire brigade booster assembly cabinet or similar construction that – (i) Has an FRL not less than 90/90/90; (ii) Extends to a distance of not less than 1m each side of the centre-line of the outermost fire hydrant pipe risers within the assembly, provided a minimum width of 3m is achieved; (iii) Extends to a height not less than 2m above ground level; and (iv) Is located immediately behind the fire hydrant and between the building and the fire hydrant. **Comments**: The building is to be serviced with a hydrant system. Hydraulic details and design certificate is to be provided from an accredited practitioner (fire safety) to confirm compliance with AS 2419.1-2021. The location of the hydrant booster is critical for brigade access. ~~**Note**: See Spec 18 – Permitted Concessions to not require internal hydrants in certain requirements.~~ **Capable of complying**
AS 2419.1-2021			

Item	Description	Status	Comments

3.5.3 Location

3.5.3.1 General

External fire hydrants shall be installed as follows –

(a) Each external fire hydrant shall be located in a position that provides pedestrian access to the building.

(b) Each external fire hydrant shall be located in a position –

(i) Not less than 10m from the building or fire compartment it is protecting, unless the fire hydrant is protected in accordance with Clause 3.5.5;

(ii) Not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards;

(iii) Not less than 10m from any Electric Vehicle Charging Station regardless of voltage unless protected by a wall or other construction having an FRL as defined in Clause 3.5.5.2;

(iv) Not less than 10m from a stored quantity of dangerous goods (e.g. LPG, petroleum, propane);

(v) Not less than 10m from external combustible storage (e.g. palletized combustible storage items); and

(vi) Not less than 3m from the vent terminal of any gas assembly or gas measurement system.

(c) An external fire hydrant shall have an area extending 500mm each side of the fire hydrant hand wheel and 1m in front of the fire hydrant that is free from obstruction.

(d) Where a fire hydrant is installed in a car park, or in an area where vehicles manoeuvre or park and the vehicles are able to come not more than 1m from the fire hydrant, bollards shall be provided to protect the fire hydrant and allow for the connection and laying of fire hose.

3.5.5Protection of fire hydrants

3.5.5.2 Non-sprinkler-protected buildings

Where external fire hydrants are located not more than 10m from a non-sprinkler-protected building, they shall be protected –

(a) if located within or affixed to the external wall of a building by walls, floors and/or ceilings, as applicable, that –

(i) Have an FRL not less than 90/90/90;

(ii) Extend for a distance of not less than 2m each side of the centre-line of the fire hydrant riser; and

(iii) Extend to a height not less than 3m above ground level.

(b) If located not more than 3.5m from the external wall and remote from the building, by either –

(i) The external wall of the building that confirms to Item (a); or

(ii) A freestanding wall or similar construction that –

(A) Has an FRL not less than 90/90/90;

(B) Extends not less than 2m each side of the centre-line of the fire hydrant riser;

(C) Extends to a height not less than 3m above ground level; and

(D) Is located immediately behind the fire hydrant and between the building and the fire hydrant.

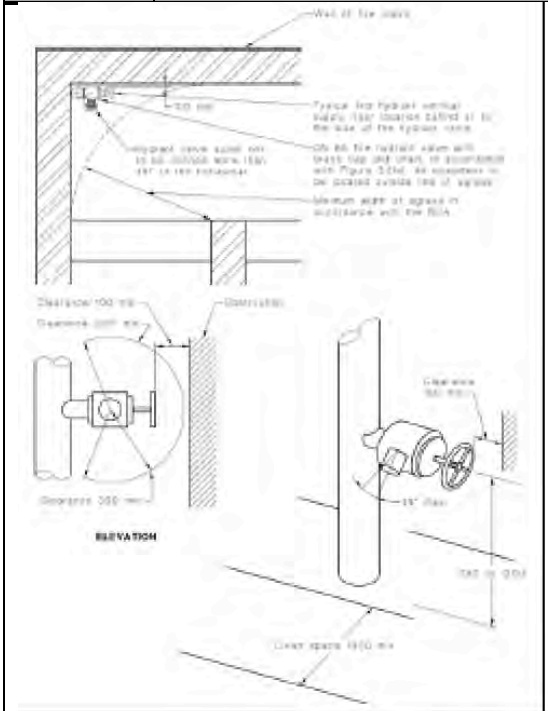
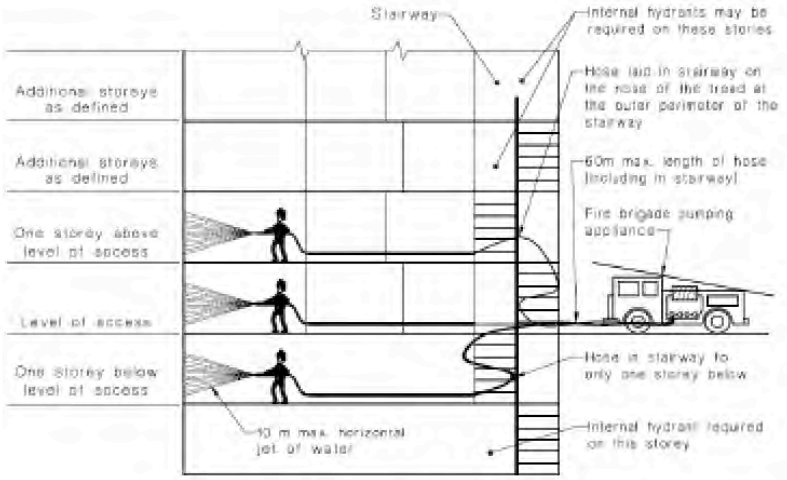
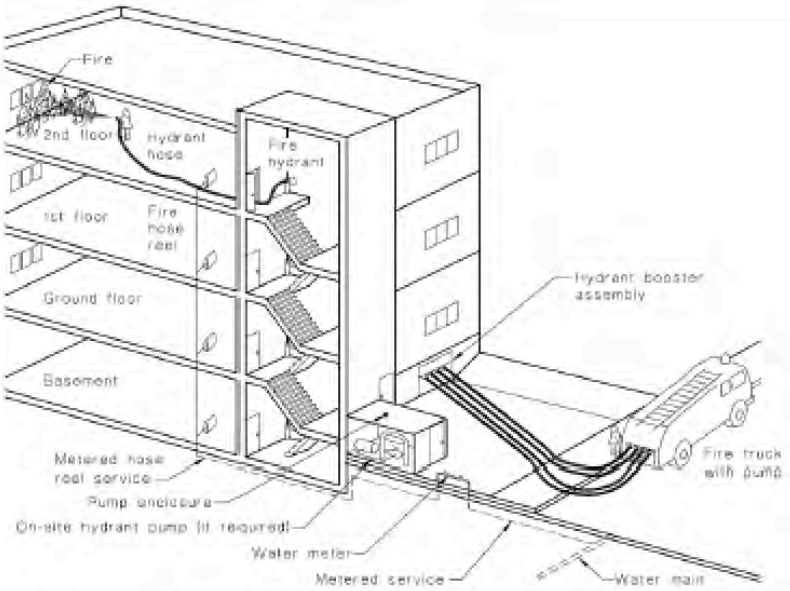
(c) If located not less than 3.5m but not more than 10m from the external wall of the building, by a freestanding wall or similar construction that –

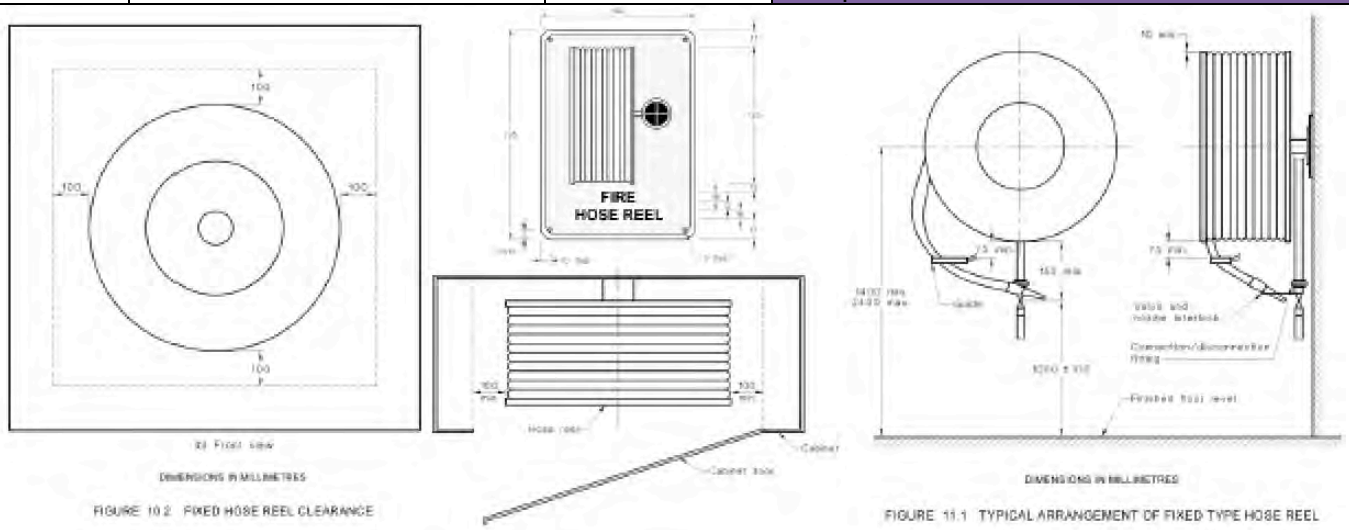
(i) Has an FRL not less than 90/90/90;

(ii) Extends for a distance of not less than 1m each side of the centre-line of the fire hydrant valve outlet;

(iii) Extends to a height not less than 2m above ground level; and

(iv) Is located immediately behind the fire hydrant and between the building and the fire hydrant.

Item	Description	Status	Comments
	 (g) Hose coverage from external hydrant (see Clause 3.2.2.1) NOTE: Due to difficulties associated with fighting building fires, internal fire hydrants are required in fire-isolated stairs for levels more than one floor below ground and one or more levels above ground.		
			
E1D3	Hose reels	N/A	~~Fire hose reels are to be provided to serve a fire compartment greater than 500sqm and to serve the building where internal fire hydrants are to be provided.~~ ~~**Comments**: The basement, car park and commercial levels are required to be served by a hose reel system.~~ ~~Should the building be provided with internal fire hydrants each storey is to be served via hose reel system.~~

Item	Description	Status	Comments
			~~Hydraulic details and design certificate is to be provided from an accredited practitioner (fire safety) to confirm compliance with AS 2441-2005.~~
			
E1D4 and Spec 17 – Fire Sprinkler Systems & Spec 18 – Class 2 & 3 buildings with an effective height <25m	Sprinklers **Note**: Consideration is to be given to the insulation proposed as a thermal break to the underside of the carpark to comply with Section J. Should a polyethylene, expanded polystyrene or extruded polystyrene insulation be proposed then AS 2118.1 requires the sprinklers to be located from 450mm to be within 300mm of a ceiling/ roof with a combustible insulation, lining or similar. Refer to (Cl 5.4.3 of AS 2118.1-1999 and Cl 5.5.3 of AS 2118.1-2017).	N/A	~~All Classes – A sprinkler system is required to serve throughout the whole building if any part of the building has an effective height of more than 25 m.~~ ~~Class 2 or 3 building (excluding a building used as a *residential care building*) and any other class of building (excluding a building used as a *residential care building*) containing a Class 2 or 3 part – A sprinkler system is to be provided throughout the whole building, including any part of another class, if any part of the building has a *rise in storeys* of 4 or more and an *effective height* of not more than 25m.~~ ~~**Comments**: The building has a rise in storeys of 4 of more and an effective height of not more than 25m.~~ ~~The building is required to be provided with a sprinkler system to comply with BCA Spec 17 and Spec 18.~~ ~~Hydraulic details and design certificate is to be provided from an accredited practitioner (fire safety) to confirm compliance with Spec 17 and Spec 18.~~

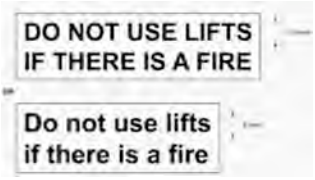
Item	Description	Status	Comments
			~~Class 7a – A sprinkler system is required to serve in fire compartments where more than 40 vehicles are accommodated.~~ ~~**Comments**: The basement and car park levels (fire compartment) are provided with more than 40 vehicles.~~
E1D14	Portable fire extinguishers Table E1.6 Requirements for extinguishers Occupancy class: General provisions—Clause 2 to 9 buildings (except within sole-occupancy units of a Class 9c building). Risk class (as defined in AS 2444): (a) To cover Class AE or E fire risks associated with emergency services switchboards.[Note 1] (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). (d) To cover Class A fire risks in normally occupied fire compartments less than 500 m² 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. Specific provisions (in addition to general provisions)— (a) Class 9c health-care building, including a Class 9c 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) Class 9c building. To cover Class A and E fire risks.[Note 2] Notes to Table E1.6 1. For the purposes of this Table, an emergency services switchboard is one which sustains emergency equipment operating in the emergency mode. 2. A Class E fire extinguisher need only be located at each nurses' station, supervisors' station or the like. 3. Additional extinguishers may be required to cover fire risks in relation to special hazards provided for in E1.10. 4. 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. FIGURE 3.2 MOUNTING HEIGHTS FOR PORTABLE FIRE EXTINGUISHERS AND LOCATION SIGNS	Applies	The building is to be provided with Portable Fire Extinguishers in accordance with E1D14 and AS 2444-2001. **Capable of complying**
E1D15 and Specification 19 – Fire Control Centres	Fire control centres **Buildings with effective height >25m<50m** Spec 19 – The design of a fire control centre must; • Clause 3 – Be 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 300mm. • Clause 4 – Have no internal combustion engine, pumps, sprinkler	N/A	~~A fire control centre facility in accordance with Specification 19 must be provided for—~~ ~~(a) a building with an effective height of more than 25m; and~~ ~~(b) a Class 6, 7, 8 or 9 building with a total floor area of more than 18 000sqm~~ ~~**Note**: The 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 300mm.~~ ~~**Comments**: A fire control centre is required to be included into the design in~~

Item	Description	Status	Comments
	control valves, pipes and pipe fittings are to be located in the fire control centre. • Clause 5 – Have an ambient sound level within the fire control centre measures when all fire safety equipment is operating in the manner in which it operates in an emergency must not exceed 65db(A). **Buildings with effective height >50m** Spec 19 – The design of a fire control centre must; • Clause 3 – Be 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 300mm. • Clause 4 – Have no internal combustion engine, pumps, sprinkler control valves, pipes and pipe fittings are to be located in the fire control centre. • Clause 5 – Have an ambient sound level within the fire control centre measures when all fire safety equipment is operating in the manner in which it operates in an emergency must not exceed 65db(A). • Have construction in a building with an effective height > 50m designed to comply with Spec E1.8, Clauses 6 & 7. • Clause 8 (a) – The doors to a fire control centre in a building with an effective height of >25m<50m must		~~accordance with Spec 19 as the effective height of the building is more than 25m.~~

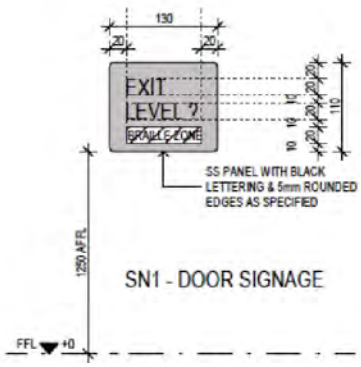
Item	Description	Status	Comments
	open into the room, be lockable and located so that persons using escape routes from the building will not obstruct or hinder access to the room. • Clause 8 (b) – Be accessible via two paths of travel, one being from the front entrance to the building and one direct from a public space or fire isolated passageway which leads to the public place and a has a door with an FRL of not less than -/120/30. • Clause 9 (a) – Contain a fire indicator panel, telephone directly connected to an external telephone exchange, blackboard or whiteboard not less than 1200mm wide x1000mm high, a pin up board not less than 1200mm wide x1000mm high, a racked plan layout table and colour coded, durable tactical fire plans. • Clause 9 (c) – Have a floor area of not less than 10m2 and the length of any internal side must be not less than 2.5m, have a clear space of not less than 1.5m2 in front of the fire indicator panel and a maintained clear path of travel. • Clause 10 – Ventilation either natural or a pressurisation system that only serves the fire control room. • Clause 11 – Suitably signed with letters of not less than 50mm high and or a colour which contrasts with that of the		

Item	Description	Status	Comments
	background to state FIRE CONTROL ROOM. • Clause 12 – Emergency lighting is to be provided		
E1D16	Fire precautions during construction	Applies	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— (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. **Comments**: The CC issue plans are to reference the fire precautions during construction requirements with the relevant design statement prepared by an accredited practitioner (fire safety) to confirm compliance. **Capable of complying**
E1D17	Provision for special hazards	N/A	~~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.~~ ~~**Comments:** Consideration to be given to EV Ready Connection.~~
Part E2 Smoke Hazard Management			
E2D2	Application of part	Noted	Noted
E2D3 & Spec 20 – Smoke Detection and	General requirements	Applies	**<u>Smoke Detection:</u>** The building is to be provided with a smoke alarm system complying with Spec 20 Clause 3 or a smoke detection system complying with Spec 20 Clause 4 or a

Item	Description	Status	Comments
Alarm Systems			combination of a smoke alarm system within the sole-occupancy units and a smoke detection system in areas not within sole-occupancy units complying with Spec 20 Clause 5. **Comments**: Electrical details and design certificate is to be provided by an accredited practitioner (fire safety) and are to be provided prior to issue of the Construction Certificate. **Capable of complying**
Spec 21 – Smoke Exhaust Systems			N/A
Spec 22 – Smoke and Heat Vents			N/A
E2D21	Provision for special hazards	N/A	N/A
Part E3 Lift Installations			
E3D2	Lift Installations	Applies	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification 24. Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority. **Capable of complying**
E3D3	Stretcher facility in lifts	N/A	~~(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~~

Item	Description	Status	Comments
			~~space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level.~~ ~~**Comments**: The effective height is 16.9m approx. The lift is to be designed to accommodate stretcher facilities.~~ ~~Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority.~~
E3D4	Warning against use of lifts in fire  	Applies	**Capable of complying**
E3D5	Emergency lifts	N/A	~~(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.~~ ~~(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—~~ ~~(r) be contained within a fire-resisting shaft in accordance with C3D11; and~~ ~~(s) in a Class 9a building serving a patient care area—~~

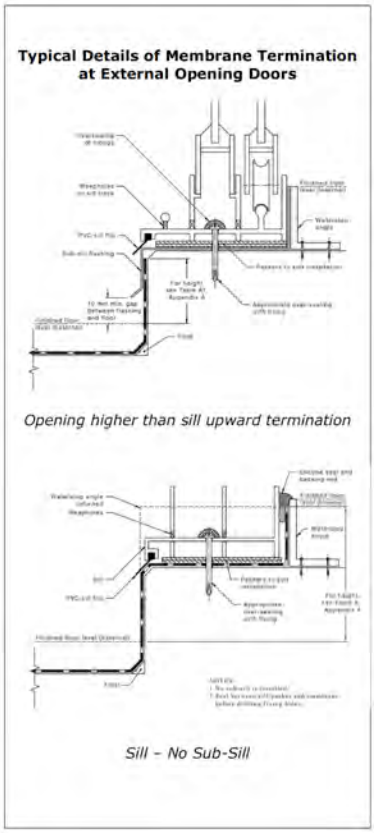
Item	Description	Status	Comments
			~~(i) have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3D5; and~~ ~~(ii) be connected to a standby power supply system where installed; and~~ ~~(t) if the building has an effective height of more than 75m, have a rating of at least—~~ ~~(i) 600kg if not provided with a stretcher facility; or~~ ~~(ii) 900kg if provided with a stretcher facility.~~
E3D6	Landings	Applies	Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Section D. **Capable of complying**
E3D7, E3D8	Facilities for people with disabilities 	Applies	The lift design is to comply with E3D7, E3D8 and AS1735.12-1999. **Comments:** Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority. **Capable of complying**
E3D9	Fire service controls	N/A	~~Where lifts serve any storey above an effective height of 12m, 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.~~

Item	Description	Status	Comments
			~~**Comments**: Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority.~~
E3D10	Aged care buildings	N/A	N/A
E3D11	Fire service recall control switch	N/A	~~See E3D9 in the report to be included in the manufacturer's specification and design certificate.~~
E3D12	Lift car fire service drive control	N/A	~~See E3D9 in the report to be included in the manufacturer's specification and design certificate.~~
Part E4 Emergency Lighting, Exit Signs and Warning Systems			
E4D2	Emergency lighting requirements **Note**: The treads of stairways are to achieve a minimum of 1Lux.	Applies	Emergency lighting is to be provided in common corridors, stairways and public areas to comply with AS/NZS 2293.1-2018. **Comments**: Electrical details and design certificate are to be provided. **Capable of complying**
E4D5	Exit signs Braille tactile **EXIT** signage 	Applies	The building is to be provided with exit lighting to assist occupant in identifying the exits to comply with AS/NZS 2293.1-2018. **Comments**: Electrical details and design certificate are to be provided. **Note**: Braille and tactile signage complying with **Specification 15** must— (i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 and identify each— (A) sanitary facility, except a sanitary facility within a *sole-occupancy unit* in a Class 1b or Class 3 building; and (B) space with a hearing augmentation system; and (ii) identify each door *required* by **E4D5** to be provided with an *exit* sign and state— (A) "**Exit**"; and (B) "**Level**"; and either (aa) the floor level number; or (bb) a floor level descriptor; or (cc) a combination of **(aa)** and **(bb)**

Item	Description	Status	Comments
			Example below; **Comments**: The plans are to confirm compliance in the form of door schedule. **Capable of complying**
E4D6	Directional exit signs 	Applies	The building is to be provided with directional exit lighting to assist occupant in identifying the exits to comply with AS/NZS 2293.1-2018. **Comments**: Electrical details and design certificate are to be provided. **Capable of complying**
E4D7	Class 2 and 3 buildings and Class 4 parts: exemptions	N/A	N/A
E4D9	Sound systems and intercom systems for emergency purposes	N/A	~~A sound system and intercom system for emergency purposes complying where applicable with AS 1670.4 must be installed—~~ ~~(a) in a building with an effective height of more than 25m; 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 school; or~~ ~~(ii) accommodation for the aged, children or people with a disability; and~~ ~~(c) in a Class 3 building used as a residential aged 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~~

Item	Description	Status	Comments
			~~(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 1000sqm or a rise in storeys of more than 2.~~
SECTION F HEALTH & AMENITY		Applies	**Capable of complying**
Part F1 Surface Water Management, Rising Damp and External Waterproofing			
F1D1	Deemed-to-Satisfy Provisions	Applies	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance RequirementsF1P1 to F1P4 are satisfied by complying with F1D2 to F1D8. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable. **Comments**: The façade engineer is to demonstrate that the construction of the roof and external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements. **Requirements**: To demonstrate that the construction of the roof and external walls prevent the penetration of water, evidence of suitability under BCA A5G3 is required via the following methods; a) a current CodeMark certificate, b) a current certificate of Accreditation, c) a report issued by an Accredited Testing Laboratory, or d) a certificate or report from a professional engineer. Or Performance Solution prepared by a suitably qualified consultant or company.

Item	Description	Status	Comments
			Capable of complying
F1D3	Stormwater Drainage	Applies	Stormwater drainage must comply with AS/NZS 3500.3-2021. **Comments**: Stormwater details and design statement are to be provided to demonstrate compliance with F1D3 and AS/NZS 3500.3-2021. **Capable of complying**
F1D4	Exposed joints	Applies	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. **Notes** For the purposes of F1D4, an exposed joint is a construction joint, control joint, expansion joint, contraction joint or movement joint and includes an exposed joint which is directly below a drainage surface. **Explanatory information: Location of exposed joints** To minimise the potential of water ingress, the exposed joint should be located at a ridge or high point of the structural substrate, where possible. **Explanatory information: Exposed joints subject to excessive movement** Where an exposed joint is subject to excessive movement, such as more than 10 mm, additional measures should be considered to ensure protection of the exposed joint. These additional measures may include use of a hob with a minimum height of 50 mm formed within the structural substrate for the full length of both sides of the exposed joint, and the exposed joint protected by a discontinuous membrane in accordance with Section 2.9 of AS 4654.2.

Item	Description	Status	Comments
F1D5	External waterproofing membranes  VERTICAL UPWARD TERMINATION HEIGHTS Wind class Regions A and B (non-cyclonic) AS 4055 / Wind class Regions C and D (cyclonic) AS 4055 / Ultimate limit state wind speed (V_{ult}) AS/NZS 1170.2 / Termination height mm N1 — 34 40 N2 — 40 50 N3 C1 50 70 N4 C2 61 100 N5 C3 74 150 N6 C4 86 180	Applies	*Waterproofing* membranes for external above ground use must comply with AS 4654.1 and AS 4654.2. **Comments**: The architect and structural engineer are to provide sections demonstrating compliance with AS 4654.1 and AS 4654.2 with particular attention to detail on the stepdown/termination heights. **Capable of complying** **Note:** Refer to wind classification to determine the balcony stepdown/termination heights. Openings onto external areas required to have an above-ground external waterproofing membrane are required to have an external termination and set-down or hob providing a vertical surface of sufficient dimension in accordance with AS 4654.2-2012, Table A1, Appendix A. - 40mm termination height - N1 Wind Class - Ultimate Wind Speed 34 m/s - 50mm termination height - N2 Wind Class - Ultimate Wind Speed 40 m/s - 70mm termination height - N3 Wind Class - Ultimate Wind Speed 50 m/s - 100mm termination height - N4 Wind Class - Ultimate Wind Speed 61 m/s - 150mm termination height - N5 Wind Class - Ultimate Wind Speed 74 m/s - 180mm termination height - N6 Wind Class - Ultimate Wind Speed 86 m/s
F1D6	Damp-proofing	Applies	(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

Item	Description	Status	Comments
			(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.
F1D7	Damp-proofing of floors on the ground	Applies	(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.
F1D8	Subfloor ventilation	Applies	(1) Subfloor spaces must— (a) be provided with openings in *external walls* and internal subfloor walls in accordance with for the climatic zones given in ; and Table F1D8 Figure F1D8 (b) have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with . Table F1D8 (2) In addition to (1), a subfloor space must— (a) be cleared of all building debris and vegetation; and (b) have the ground beneath the suspended floor graded to prevent ponding under the building; and *surface water*; and (c) contain no dead air spaces; and (d) have openings evenly spaced as far as practicable; and (e) have openings placed not more than 600 mm in from corners. (3) In double leaf masonry walls, openings

Item	Description	Status	Comments
			specified in (1) must be provided in both leaves of the masonry, with openings being aligned to allow an unobstructed flow of air. (4) Openings in internal subfloor walls specified in (1) must have an unobstructed area equivalent to that for the adjacent external openings. *required* (5) Where the ground or subfloor space is excessively damp or subject to frequent flooding, in addition to the requirements of (1) to (4)— (a) the subfloor ventilation required in (1) must be increased by 50%; or (b) the ground within the subfloor space must be sealed with an impervious membrane; or (c) subfloor framing must be— (i) where above ground, above-ground durability Class 1 or 2 timbers or H3 preservative treated timbers in accordance with AS 1684.2, AS 1684.3 or AS 1684.4; or (ii) where in ground, in-ground durability Class 1 or 2 timbers or H5 preservative treated timbers in accordance with AS 1684.2, AS 1684.3 or AS 1684.4; or (iii) steel in accordance with NASH Standard 'Residential and Low-Rise Steel Framing' Part 2. Table F1D8: Subfloor openings and ground clearance Climatic zone (see Figure F1D8) / Minimum aggregate subfloor ventilation openings without a *membrane* (mm^2/m of wall) / Minimum aggregate subfloor ventilation openings having the ground sealed with an impervious *membrane* (mm^2/m of wall) / Minimum ground clearance height where termite inspection or management system is not required (mm) / Minimum ground clearance height where termite inspection is required (mm) Note 1 A / 2000 / 1000 / 150 / 400 B / 4000 / 2000 / 150 / 400 C / 6000 / 3000 / 150 / 400 Table Notes (1) 400 mm clearance *required* only where termite management systems are installed that need to be inspected (see B1D4). (2) On sloping sites, the 400 mm clearance *required* by (1) may be reduced to 150 mm within 2 m of *external walls*. (3) In situations where openings in *external walls* and internal subfloor walls are not able to be provided, additional measures must be provided to ensure that the overall level of ventilation of the subfloor space is maintained. (4) Additional measures referred to in (3) may include measures similar to those in F1D8(5), such as providing durability class timbers, or having the ground sealed in the subfloor space with an impervious *membrane*.
Part F2 **Wet Areas and Overflow Protection**			

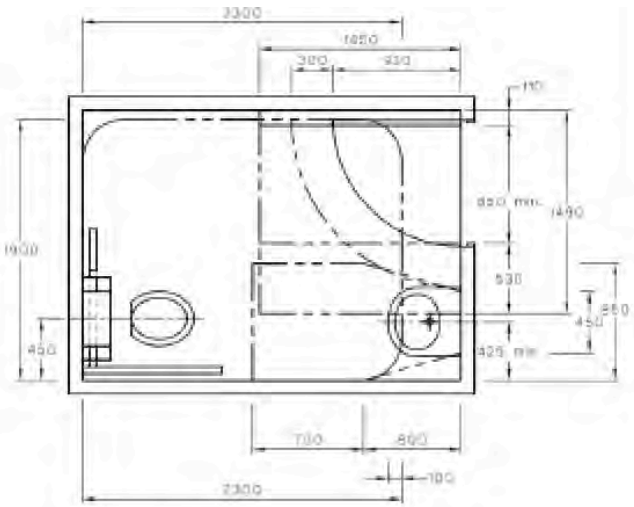
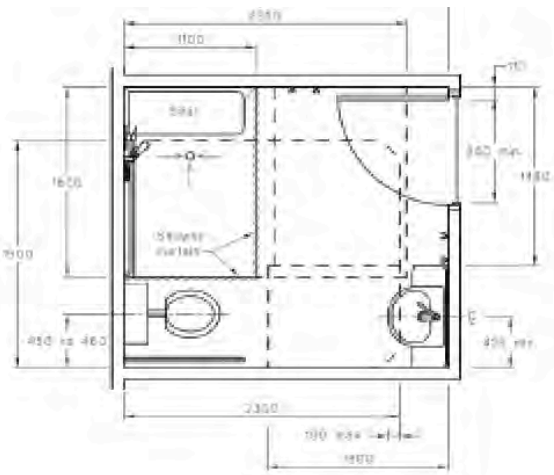
Item	Description	Status	Comments
F2D1	Deemed-to-Satisfy Provisions	Applies	(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F2P1 and F2P2 are satisfied by complying with F2D2 to F2D4. (2) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.
F2D2	Wet area construction	Applies	(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 Spec 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 Spec 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.~~ **Capable of complying**
F2D3	Rooms containing urinals	N/A	~~(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 and *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~~

Item	Description	Status	Comments
			~~be impervious.~~ ~~(2) Where a wall hung urinal is installed—~~ ~~(a) the wall must be surfaced with impervious material extending from the floor to not less than 50mm above the top of the urinal and not less than 225mm 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.~~
F2D4	Floor wastes	Applies	(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; (b) and the maximum continuous fall of a floor plane to the waste must be 1:50. **Capable of complying**
Part F3 Roof and Wall Cladding			
F3D2	Roof coverings	Applies	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 AS 4597, except in cyclonic areas; or (e) an external waterproofing *membrane* complying with F1D5.

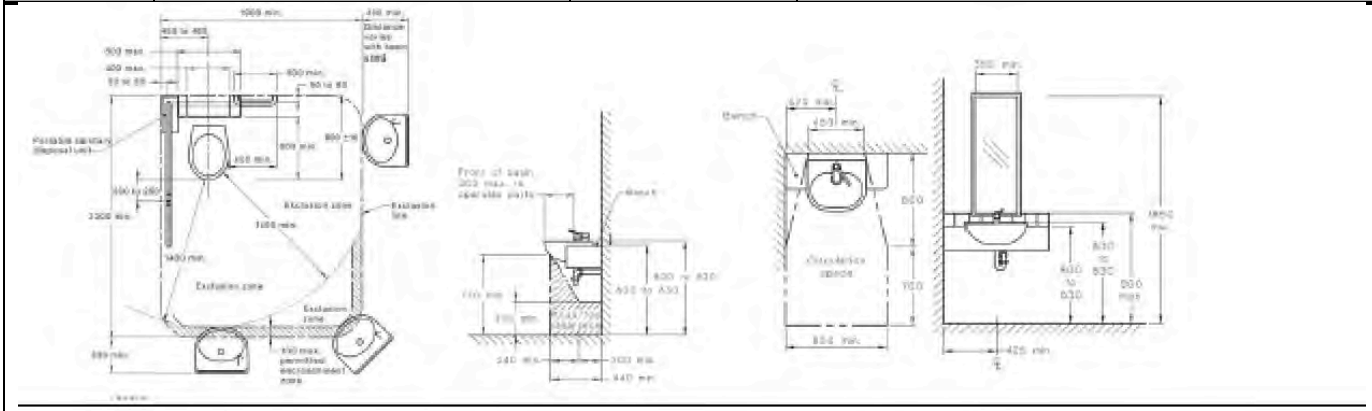
Item	Description	Status	Comments
			Capable of complying
F3D3	Sarking	Applies	*Sarking-type material* used for weatherproofing of roofs and walls must comply with AS 4200.1 and AS 4200.2. **Capable of complying**
F3D4	Glazed assemblies	Applies	(1) Subject to (2) and (3), the following glazed assemblies 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 car park. (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

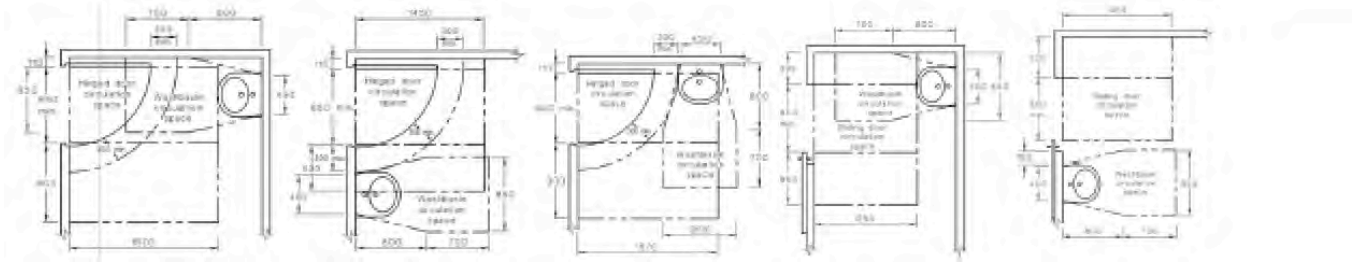
Item	Description	Status	Comments
			windows and recycled windows. (h) Heritage windows. **Capable of complying**
F3D5	Wall Cladding	Applies	(1) External wall cladding must comply with one or a combination of the following: (a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700. (b) Autoclaved aerated concrete: AS 5146.3. (c) Metal wall cladding: AS1562.1. (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 another part of the building that is required to be weatherproofed. **Capable of complying**
Part F4 **Sanitary and Other Facilities**			
F4D2	Facilities in Residential Buildings	Applies	**Each sole-occupancy unit is required to have**; • Kitchen sink and facilities for the preparation and cooking of food • Bath or shower • Closet pan • Washbasin • Laundry – Separate Tub **Complies**
F4D3	Calculation of number of occupants and facilities	N/A	~~(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~~

Item	Description	Status	Comments
			~~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 for people with a disability (other than a facility provided under) 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.~~
F4D4	Facilities in Class 3 to 9 Buildings	N/A	~~Facilities for staff and visitors are to be provided in accordance with this clause, including a uni-sex accessible facility and ambulant facilites for both male/female and the total number of each facility to be determined by D2D18 and F2D4.~~ ~~**Comments:** Details are to be provided. Plans scaled to 1:50 are to be provided for the sanitary facilities.~~
F4D5	Accessible sanitary facilities 	N/A	~~A uni-sex accessible facility is to be provided.~~ ~~**Comments:** Details are to be provided. Plans scaled to 1:50 are to be provided for the sanitary facilities.~~ ~~**Note**: Where existing accessible toilets are provided, the use of existing AS1428.1:2001 compliant toilet facility is deemed as acceptable only if the toilet actually complies with AS1248.1:2001. Full compliance with AS1428.1:2009 is to be indicated on the Construction Certificate plans and via a Design Certificate.~~ ~~Occupants are to be provided with two (2) different types of accessible toilets;~~ ~~1: An accessible *toilet* compartment (Wheelchairs) i.e.:~~ ~~- Ground floor *RH Transfer*~~ ~~- First Floor *LH Transfer* etc.~~ ~~2: An ambulant *cubical* being a minimum normal toilet cubical size for easier use (Persons with mobility difficulties) in each and every toilet bank.~~
Details for an Accessible Toilet: (Checklist)			

Item	Description	Status	Comments
— The toilet is to be signed according to AS1428.1, with Left- or Right-hand transfer. — Door clearances shall be in accordance with the relevant doors size and approach form both sides. — Doors are to have a staged closer, if it opens outwards, must also incorporate a closer which hold the door closed without pulling the door closed via a handle. — Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib catch is used, the snib handle shall have a minimum length of 45 mm from the centre of the spindle. In an emergency, the latch mechanism shall be openable from the outside. — Toilet pan and wash basin are located in accordance with the diagrams with the required clearances, — All handrails are installed and are structural (110N), — Flushing control is automatic or push action in the required zone, — An emergency light is also to be installed within the toilet. — A mirror is to be installed not less than 350mm wide by 900mm tall. o Located above the sink, o Flat against the wall. — A shelf is to be installed next to the basin @ 900-1000mm from the floor with a minimum width of 120-150mm by 300-400mm. — Where provided, soap dispensers, towel dispensers, hand dryers and similar fittings shall be operable by one hand and shall be installed with the height of their operative component or outlet not less than 900 mm and not more than 1100 mm above the plane of the finished floor, and no closer than 500 mm from an internal corner. — A clothes-hanging device shall be installed 1200 mm to 1350 mm above the plane of the finished floor and not less than 500 mm out from any internal corner.  			

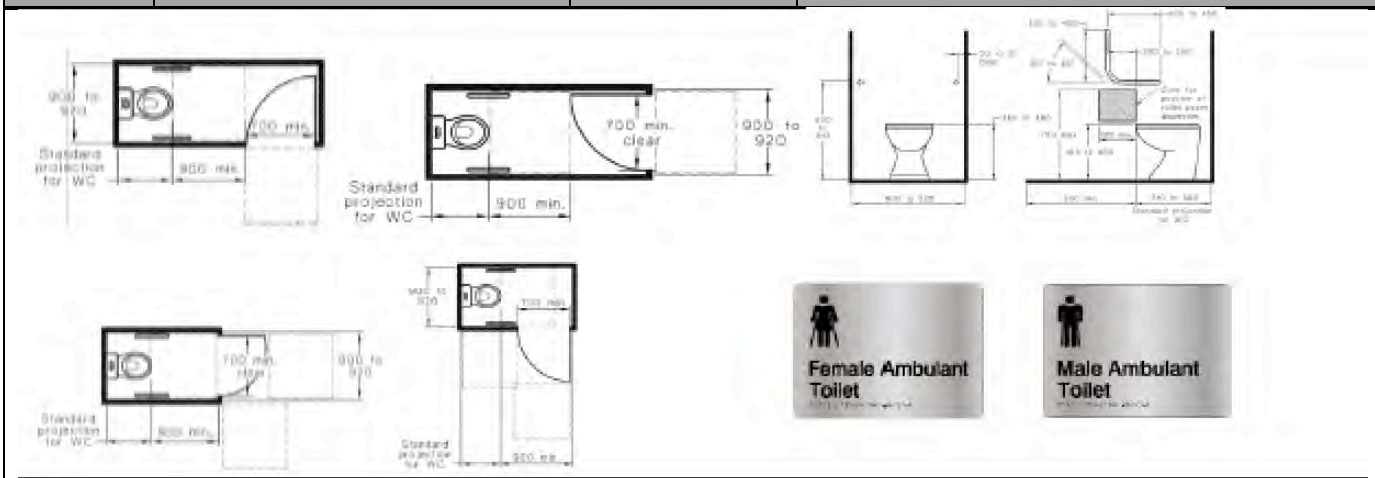
Item	Description	Status	Comments

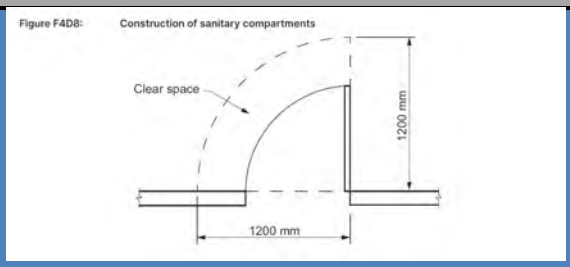




Ambulant Cubicle
Any toilet block is also to accommodate at least one ambulant cubical in **both** the *Male* and *Female* banks.
Final details to accompany the Construction Certificate Plans.

Details for an Ambulant Cubicle: (Checklist)
— The toilet is to be signed according to AS1428.1, on the cubicle door,
— Door clearances shall be in accordance with the relevant doors size and approach form both sides. (900*900 pads)
— Cubical is 900mm wide, Doors are 700mm and must also incorporate a closer or handle.
— Doors shall be provided with an in-use indicator and a bolt or catch. Where a snib catch is used, the snib handle shall have a minimum length of 45 mm from the centre of the spindle. In an emergency, the latch mechanism shall be openable from the outside.
— Toilet pan and wash basin are located in accordance with the diagrams with the required clearances,
— All handrails are installed and are structural (110N),
— A clothes-hanging device shall be installed 1350 mm to 1500mm above the plane of the finished floor and not less than 500 mm out from any internal corner.

Item	Description	Status	Comments
			
F4D6	Construction of sanitary compartments	N/A	N/A
F4D7	Accessible unisex shower	N/A	N/A
F4D8	Construction of sanitary compartments	Applies	(1) Other than in an *early childhood centre*, sanitary compartment 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) 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, 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.* (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 900mm but not more than 1200mm above the floor level. **Complies**

Item	Description	Status	Comments
			
F4D11	Waste	N/A	N/A
F4D12	Accessible adult change facilities	N/A	N/A
Spec 27	Accessible adult change facilities	N/A	N/A
Part F5 Room Heights			
F5D2	Height of rooms and other spaces	Applies	(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) A kitchen, laundry, or the like – 2.1m; and (b) A corridor, passageway or the like – 2.1m; and (c) A habitable room excluding a kitchen – 2.4m; and (d) In a room or space with a sloping ceiling or projections below the ceiling line within – (i) in an attic – a height of not less than 2.2m 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 2.4m for not less than two-thirds of the floor area of the room or space; and (e) In a non-habitable room, or space within a non-habitable room, with a sloping ceiling or projections below the veiling line – a height of not less than 2.1m 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 1.5m is not included.

Item	Description	Status	Comments
			(3) The height of rooms and other spaces in a Class 5, 6, 7 or 8 building must not be less than – (a) Except as allowed in (b) and (8) – 2.4m; and (b) A corridor, passageway or the like – 2.1m. (4) The height of rooms and other spaces in a Class 9a *health-care building* must not be less than – (a) a *patient care area* — 2.4m; and (b) an operating theatre or delivery room — 3m; and (c) a treatment room, clinic, waiting room, passageway, corridor, or the like — 2.4m; and (5) The height of rooms and other spaces in a Class 9b building must 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 — 2.7m; and (c) For a corridor – (i) that serves an *assembly building* or part that accommodates not more than 100 persons — 2.4m; or (ii) that serves an *assembly building* or part that accommodates more than 100 persons — 2.7m; and (6) For the purposes of (5) the number of persons accommodated must be calculated according to D2D18. (7) The height of rooms and other spaces in a Class 9c building must not be less than – (a) For a kitchen, laundry, or the like — 2.1m; and (b) For a corridor, passageway or the like — 2.4m; and (c) For a *habitable room* excluding a kitchen — 2.4m. (8) The height of rooms and other spaces in any building must not be less than – (a) For a bathroom, shower room, *sanitary compartment*, other than

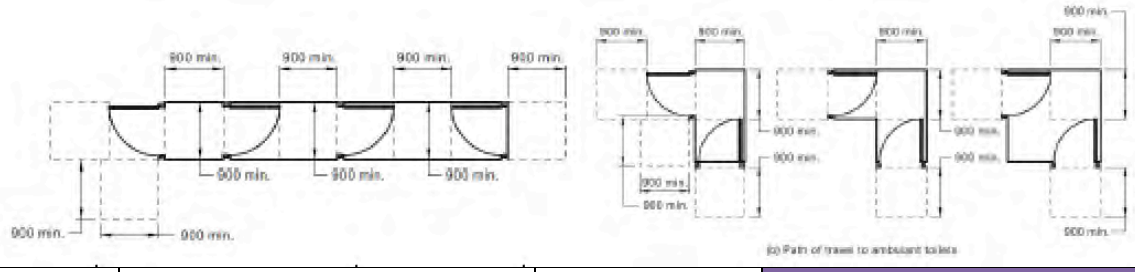
Item	Description	Status	Comments
			an *accessible* adult change facility, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and (b) For a commercial kitchen — 2.4 m; and (c) above a stairway, ramp, landing or the like — 2 m measured vertically above the 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. **Comments:** The height of rooms must not be less than 2.4m in habitable rooms (excl. kitchen/bathroom which must not be less than 2.1m). **Complies**
Part F6 Light and Ventilation			
F6D3	Methods and extent of natural light	Applies	(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 verandah, carport or the like; or (b) roof lights, that – (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 (i) and (ii). (2) Except in a Class 9c building, in a Class 2, 3 or 9 building or Class 4 part

Item	Description	Status	Comments
			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 – 1m; and (b) In a patient care area or other room used for sleeping purposes in a Class 9a building – 3m; 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 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 500mm above the floor level. **Capable of complying**
F6D4	Natural light borrowed from adjoining room	Applies	(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 verandah) if – (a) both rooms are within the same sole-occupancy unit or the enclosed verandah 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 –

Item	Description	Status	Comments
			(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 (B) are open to the sky or face a court or other space open to the sky or an open verandah, 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 **Capable of complying**
F6D5	Artificial lighting	Applies	(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 F4.2 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) Class 4 parts of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries; and (ii) Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and (iii) Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all

Item	Description	Status	Comments
			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 H1. (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. **Capable of complying**
F6D6	Ventilation of rooms	Applies	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 NSW F6D6 (b) A mechanical ventilation or air-conditioning system complying with AS1668.2 and AS/NZS3666.1. **Capable of complying** **Note:** Refer to F8D4 in the report for further requirements.
F6D7	Natural Ventilation	Applies	(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 verandah, carport, or the like; or

Item	Description	Status	Comments
			(iii) an adjoining room in accordance with F6D8. (2) The requirements of (1)(a) do not apply to a Class 8 *electricity network substation*. **Capable of complying**
F6D8	Ventilation borrowed from adjoining room	Applies	Natural ventilation to a room may come through a *window*, opening, door or other device from an adjoining room (including an enclosed verandah) if both rooms are within the same *sole-occupancy unit* or the enclosed verandah 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 (c) the ventilation areas specified in (a) and (b) may be reduced as appropriate if direct natural ventilation is provided from another source. **Capable of complying**
F6D9	Restriction and location of sanitary compartments	Applies	Sanitary compartments must not open directly into – (a) A kitchen or pantry; or

Item	Description	Status	Comments
			(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. **Complies**
F6D10	Airlocks	Noted	**Note**: Airlocks must comply with the set distances under AS1428.1 :2009
			
F6D11	Car parks	N/A	~~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.~~ ~~**Comments:** Mechanical engineer's details and design certificate is to be provided to demonstrate that the system of ventilation complies with F6D11.~~
F6D12	Kitchen local exhaust ventilation	N/A	~~A commercial kitchen must be provided with a kitchen exhaust hood complying with AS1668.1 and AS1668.2.~~
Part F7 Sound Transmission and Insulation			
F7D3	Determination of airborne sound insulation ratings	Applies	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 1276.1or ISO717.1 using results from laboratory measurements; or (b) comply with Specification 28.

Item	Description	Status	Comments
			Comments: A system for sound insulation is to be provided on plans to demonstrate compliance with F7D3 & F7D4. **Capable of complying**
F7D4	Determination of impact sound insulation ratings	Applies	(1) A floor in a building required to have an impact sound insulation rating must – (a) have the required value for weighted normalized impact sound pressure level (Ln,w) determined in accordance with ASISO717.2 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 Table 2 of Specification 28.~~ (3) For the purpose so of this Part, discontinuous construction means a wall having a minimum 20mm cavity between 2 separate leaves, and (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. **Comments:** A system for sound insulation is to be provided on plans to demonstrate compliance with F7D3 & F7D4 **Capable of complying**
F7D5	Sound insulation rating of floors	Applies	(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 –

Item	Description	Status	Comments
			(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.~~ **Comments:** A system for sound insulation of the floors is to be provided on plans to demonstrate compliance with F7D3, F7D4 & F7D5. **Capable of complying**
F7D6	Sound insulation rating of walls	Applies	(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 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 (c), a wall separating a sole-occupancy unit in a Class 9c~~

Item	Description	Status	Comments
			~~building from a kitchen or laundry must comply with F7D4.~~ (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. **Comments:** A system for sound insulation of the walls is to be provided on plans to demonstrate compliance with F7D6. **Capable of complying**
F7D7	Sound insulation rating of internal services	Applies	(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). **Comments**: Provide a system for sound insulation (lagging) to 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.* **Capable of complying**
Part F8 **Condensation Management**			Part F8 aims to limit the amount of condensation that can accumulate within a building by requiring that water vapour be

Item	Description	Status	Comments
			extracted to a point external to the building. It only applies to residential building classifications which are considered to be more susceptible to the accumulation of moisture due to the building's intended function and use.
F8D2	Application of Part	Applies	Only applies to sole-occupancy units of a Class 2 building and a Class 4 part of building.
F8D3	External wall construction **<u>Definitions</u>** ***Pliable building membrane*** – means a water barrier as classified by AS/NZS 4200.1. - pliable building membranes (also known as sarking or underlay), when used either independently or as a facing to other materials, such as insulation materials, and as control functions for water, thermal vapour or air control. ***Water control layer*** – means a *pliable building membrane* or the exterior cladding when no *pliable building membrane* is present. ***Water sensitive materials*** – means materials that have an inherent capacity to absorb water vapour and include timber, plasterboard, plywood, oriented strand board and the like.	Applies	(1) Where a *pliable building membrane* is installed in an *external wall*, it must— (a) comply with AS/NZS 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 – (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. **Comments**: A detailed specification is to be provided to demonstrate compliance. **Capable of complying**
F8D4	Exhaust systems	Applies	(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of – (a) 25L/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 be discharged directly or via a shaft or duct to outdoor air.

Item	Description	Status	Comments
			(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. **Comments**: Provide details including a design statement is to be provided to demonstrate compliance with the flow rate and discharge (kitchen, bathroom, sanitary compartment of laundry) or exhaust systems in F8D4. **Capable of complying**
F8D5	Ventilation of roof space	Applies	(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) Immediate above ceiling insulation which meets the requirements of J3D7(3) and J3D7(4); and (b) Has a height of not less than 20mm; and (c) Is either – (i) Ventilated to outdoor air

Item	Description	Status	Comments
			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. Table F8D5: Roof space ventilation requirements Roof pitch: <10° — Ventilation openings: 25,000 mm²/m provided at each of two opposing ends Roof pitch: ≥10° and <15° — Ventilation openings: 25,000 mm²/m provided at the eaves and 5,000 mm²/m at high level Roof pitch: ≥15° and <75° — Ventilation openings: 7,000 mm²/m provided at the eaves and 5,000 mm²/m at high level, plus an additional 18,000 mm²/m at the eaves if the roof has a cathedral ceiling **Comments**: Details including a design statement is to be provided to demonstrate compliance with F8D5. **Capable of complying**
SECTION G ANCILLARY PROVISIONS			
Part G1 Minor Structures and Components			
NSW G1D2	Swimming Pools	N/A	~~(1) NSW G1D2(2) applies to the technical construction requirements for barriers to restrict access to swimming pools, subject to –~~ ~~(a) Out-of-ground pool walls and the walls of above ground pools, including inflatable pools, not being considered to be effective barriers; and~~ ~~(b) The reference in Clause 2.3.1 of AS 1926.1 to a barrier within a property including a boundary barrier.~~ ~~(2) A *swimming pool* with a depth of water more than 300mm and which is associated with a Class 2 or 3 building or Class 4 part of a building, must have suitable barriers to restrict access by young children to the immediate pool surrounds in accordance with –~~ ~~(a) AS 1926.1 and AS 1926.2; or~~

Item	Description	Status	Comments
			~~(b) If the swimming pool is a spa pool –~~ ~~(i) The requirements of (a); or~~ ~~(ii) Clause 9 of the Swimming Pools Regulation 2018.~~ ~~(3) A water recirculation system in a *swimming pool* with a depth of water more than 300mm must comply with AS 1926.3.~~
G1D3	Refrigerated chambers, strong-rooms and vaults	N/A	~~(1) A refrigerated or cooling chamber, strong room or vault which is of sufficient size for a person to enter must have —~~ ~~(d) a door which is capable of being opened by hand from inside without a key; and~~ ~~(e) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strong room or vault; and~~ ~~(f) an indicator lamp positioned outside the chamber, strong room or vault which is illuminated when the interior lights *required* by (b) are switched on; and~~ ~~(g) an alarm that is –~~ ~~(i) located outside but controllable only from within the chamber, strong room or vault; and~~ ~~(ii) able to achieve a sound pressure level outside the chamber, strong room 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 600mm and a clear height not less than 1.5m.~~
G1D4	Outdoor play spaces – Early childhood centre	N/A	~~(1) Any outdoor play space in a Class 9b *early childhood centre* must be enclosed on all sides with a barrier which –~~ ~~(a) Where the edge of the trafficable surface of the outdoor play space is at the same level or less than 2m above the surface beneath – complies with AS 1926.1; and~~ ~~(b) Where the edge of the trafficable surface of the outdoor play space is~~

Item	Description	Status	Comments
			~~2m or more above the surface beneath –~~ ~~(i) Is not less than 1.8m high, as measured from above the trafficable surface; and~~ ~~(ii) Is non-climbable and does not contain horizontal or other elements that could facilitate climbing and~~ ~~(iii) Does not have any openings or apertures through which a 100mm or greater sphere could pass; and~~ ~~(iv) Is not within 1.8m, as measured directly from the top of the barrier, of any elements within the outdoor play space that facilitate climbing; and~~ ~~(v) Is not within 900mm of elements in a wall that facilitate climbing; and~~ ~~(c) Has strength and rigidity complying with AS 1926.1.~~ ~~(2) For the purposes of (1)(a), AS 1926.1 is applied as if there is a *swimming pool* located outside the outdoor play space, so that the barrier restricts children from exiting the premises without the knowledge of staff in the centre.~~ ~~(3) The requirements of (1) do not apply to a wall, including doors and *windows*, which form part of the Class 9b *early childhood centre*, except where the wall is within a non-climbable zone for a barrier provided under (1)(a).~~
NSW G1D5	Provision for cleaning windows	N/A	~~(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.~~
Part G3 Atrium construction			

Item	Description	Status	Comments
Spec G3D8	Fire and smoke control systems in buildings containing atriums	N/A	N/A
Part G4 Construction in Alpine Areas		N/A	N/A
Part G5 Construction in bushfire prone areas		N/A	N/A
Part G6 Occupiable outdoor areas			
G6D1	Application of part	N/A	~~(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 10sqm.~~
G6D2	Fire hazard properties	N/A	~~To comply with C2D11 & Spec 7.~~
G6D3	Fire Separation	N/A	~~N/A~~
G6D4	Provision for escape	N/A	~~N/A~~
G6D5	Construction of exits	N/A	~~N/A~~
G6D6	Fire fighting equipment	N/A	~~N/A~~
G6D7	Lift installations	N/A	~~N/A~~
G6D8	Visibility in an emergency, exit and warning systems	N/A	~~N/A~~
G6D9	Light and ventilation	N/A	~~N/A~~

4.0 CONCLUSION

The proposed development is capable of complying with the provisions of the Building Code of Australia (BCA).

Recommendations: That the following options are recommended to ensure BCA Deemed to Satisfy (DTS) compliance;

1. Spec 5 – The building is to be designed to comply with Type B Construction.

   Class 2 –

   For loadbearing parts –

less than 1.5m	90/90/90
1.5m to less than 3m	90/60/30
3m to less than 9m	90/30/30
9m to less than 18m	90/30/–
18m or more	–/–/–

   For non-loadbearing parts –

less than 1.5m	–/90/90
1.5m to less than 3m	–/60/30
3m or more	–/–/–

   For internal walls between SOUs –

Loadbearing	60/60/60
Non-loadbearing	–/60/60

   Structural design statement required to confirm loadbearing parts achieve relevant FRL as per the above.

   Wall type details/schedule and layout plan, including specifications for selected systems from manufacturer/supplier, are required to confirm FRLs for all walls.

2. Spec 5 – Internal walls required to have an FRL must extend to:
   a) the underside of the floor next above, or
   b) the underside of the non-combustible roof covering, except for roof battens with dimensions of 75mm x 50mm or less or sarking-type material, must not be crossed by timber or other combustible building elements. or
   c) 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.

3. C2D9 – Lightweight construction must comply with Spec 6 if it is used in a wall system that is required to have an FRL.

4. C2D10 – The following elements and their components are required to be non-combustible:
   - External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation.
   - Non-loadbearing internal walls where they are required to be fire-resisting.

   The architect is to provide evidence of suitability under BCA A5G3 via the following;
   a) a current CodeMark certificate,
   b) a current certificate of Accreditation,
   c) a report issued by an Accredited Testing Laboratory or a certificate, or
   d) a report from a professional engineer for each non-combustible ancillary element.

5. C2D11, Spec 7 & A5G6 – The fire hazard properties for all floor linings and coverings, wall and ceiling linings are to be provided by the manufacture in the form of the following;
   a) a current CodeMark certificate,
   b) a current certificate of Accreditation,
   c) a report issued by an Accredited Testing Laboratory

6. C2D11 & Spec 7 – The rigid and flexible air-handling ductwork must comply with the relevant fire hazard properties set out in AS 4254.1 and AS 4254.2 in the form of the following;
   a) a current CodeMark certificate,
   b) a current certificate of Accreditation,
   c) a report issued by an Accredited Testing Laboratory

7. C2D14 – An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it complies with the allowable points in C2D14. The architect/structural engineer is to provide evidence of suitability under BCA A5G3 via the following;
   a) a current CodeMark certificate,
   b) a current certificate of Accreditation,
   c) a report issued by an Accredited Testing Laboratory or a certificate, or
   d) a report from a professional engineer for each non-combustible ancillary element.

8. C4D12 – Sole-occupancy unit entry doors shall be provided with self-closing, tight fitting, solid core doors, not less than 35mm thick. Door schedule is required to confirm compliance.

9. C4D10, C4D13, C4D15 & Spec 13 – An approved system from the manufacture is to be provided to maintain the FRL for services that pass through a floor, wall or ceiling in the form of the following;
   a) a current CodeMark certificate,
   b) a current certificate of Accreditation,
   c) a report issued by an Accredited Testing Laboratory

10. D2D8 – Provide confirmation a clear path of travel not less than 1m wide is provided throughout (including width of stairways measured between handrails).

11. D3D8 – Main Distribution Board and Electrical Switch Board that are within the path of travel to an exit are required to be enclosed in a non-combustible cover and suitably smoke sealed. Plans are required to confirm compliance.

12. D3D9 – The space below the stairs at each level must not be enclosed to form a cupboard or other enclosed space unless the walls and ceiling have an FRL of 60/60/60 and a –/60/30 fire door. Plans are required to confirm compliance.

13. D3D11 – A ramp serving as a required exit must comply with AS 1428.1-2009 where it is also serving as an accessible ramp under Part D4 and slip-resistance not less than that listed in Table D3D15 and tested in accordance with AS 4586. Plans are required to confirm compliance.

14. D3D14, D3D15, D3D16 – Stairs are to have maximum risers between 115-190mm and be provided with slip resistance in accordance with this clause. Sectional details are to be provided that demonstrate compliance with the BCA and AS 1428.1-2009 for the proposed stairways, landings, thresholds, balustrades and handrails on both sides of stairways in the development. (Opaque risers, handrails both sides, 300mm handrail extensions, tactiles, nosing strips, etc.)

15. D3D16 – The threshold of the doorways must not incorporate a step at any point closer to the doorway than the width of the door unless provided with a threshold ramp or step ramp in accordance with AS1428.1-2009. Plans are required to confirm compliance.

16. D3D17, D3D18, D3D19, D3D20, D3D22 – Balustrades are to be provided to stairs and balconies where there is a fall of more than 1m. I.e. min. 865mm above stair nosings and 1m in all other locations and where the floor is more than 4m above the surface beneath, the balustrade must not incorporate any horizontal or near horizontal elements between 150mm and 760mm above the floor that could facilitate climbing. Plans are required to confirm compliance.

17. D3D22 – Handrails are to be located on both sides of ramps and stairways in required exits where they are required to be accessible to comply with Clause 12 of AS 1428.1-2009.

18. D3D26 – Operation of door hardware –

    - Lever downward action door hardware is to be provided to required exits and paths of travel doors and are to be openable without a key from the side seeking egress.
    - The doors which serve as the exits for the building must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward action on a single device which is located between 900mm and 1.1m from the floor or a single hand pushing action on a single device which is located between 900mm and 1.2m from the floor.
    - Doorways serving areas required to be accessible in accordance with D4 BCA are to be provided with lever downward action door hardware that the hand of a person who cannot grip will not slip from the handle during operation of the latch and have clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm.

    Plans are required to confirm compliance.

19. D3D29 – Bedroom windows are required to be protected in accordance with this clause. Plans are required to confirm compliance.

20. D4D3 – Access and AS 1428.1-2009
    - Access is to be provided via walkway, ramp or lift from street and accessible carparking space to the principal entrance/s of the building.
    - A level walkway 1m wide is to be provided from the shared accessible car space to the principal entrance of the building.
    - All door openings on the ground floor are to have a clear opening of 850mm (920mm) door.
    - Circulation spaces to doorways are to comply with AS 1428.1-2009.
    - Tactile ground surface indicators are to be installed on top and bottom of landings of non-fire-isolated stairways and ramps.

21. D4D4 – Parts of the building required to be accessible;
    - every ramp and stairway must comply with Clause 10 (ramps) and Clause 11 (stairs) of AS 1428.1; circulation spaces must comply with AS 1428.1.
    - every passenger lift must comply with E3D7.

22. E1D2 – Fire hydrant system is required. Provide hydraulic details and design certificate prepared by an accredited practitioner (fire safety) to confirm compliance with pressure/flow and coverage in accordance with AS 2419.1-2021.

23. E1D2 & AS 2419.1-2021 – Where the fire brigade booster assembly is located between 3.5m and 10m from the external wall of the building, it must be protected by a freestanding wall, fire brigade booster assembly cabinet, or a similar structure. Provide elevation and section details confirming that the booster assembly will be separated from the building by construction with an FRL of not less than 90/90/90. This construction must extend at least 1m on each side of the centre-line of the outermost fire hydrant pipe risers (for a minimum total width of 3m) and 2m above the upper hose connections of the booster assembly. Additionally, the booster assembly must be positioned directly behind the fire hydrant, between the building and the fire hydrant.

24. E1D14 – Portable fire extinguishers are required to be provided in accordance with BCA E1D14 and AS 2444-2001. Plans are required to confirm compliance.

25. Buildings not more than 25 m in effective height: Class 2 and 3 buildings and Class 4 parts of buildings

    E2D8 – The building is required to be provided with an automatic smoke detection and alarm system, building occupant warning system and monitoring system complying with BCA Specification 20 as follows:

    S20C2 Type of system

A required automatic smoke detection and alarm system must be provided in accordance with S20C4.

S20C4 Smoke detection system
- A smoke detection system must comply with AS 1670.1 and activate a building occupant warning system in accordance with S20C7.

S20C7 Building occupant warning system
- 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.

Provide electrical details and design certificate prepared by an accredited practitioner (fire safety) to confirm compliance with Spec 20 & AS 1670.1-2018.

26. E3D2, E3D6, E3D7, E3D8 & Spec 24 – The lift design and platform lift design are to comply with E3D2, E3D6, E3D7, E3D8 & Spec 24 and AS 1735.12-1999 and manufacturer details and specifications are to be provided.

27. E4D2, E4D5, E4D6, E4D8 & Spec 25 – Emergency lighting, exit signs and direction signs are required throughout the building, including required non-fire-isolated stairways and public areas. Plans are required to confirm compliance with these clauses of the BCA and AS/NZS 2293.1-2018.

28. F1D1 – The architect or façade engineer is to demonstrate that the construction of the roof and external walls is such that they will prevent the penetration of water that could cause unhealthy or dangerous conditions or loss of amenity to occupants and undue dampness or deterioration of building elements.

29. F1D3 – Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3-2021.

30. F1D5 – The architect and structural engineer are to provide sections demonstrating compliance with AS 4654.1 and AS 4654.2 with particular attention to detail on the stepdown/termination heights.

31. F1D6 – A damp-proof course is required to prevent moisture rising and must consist of a material that complies with AS/NZS 2904 or impervious sheet material in accordance with AS 3660.1. Plans are required to confirm compliance.

32. F1D8 – Subfloor spaces must include openings in external and internal subfloor walls as specified for the climatic zones in Table F1D8 and Figure F1D8 and maintain clearance between the ground surface and the lowest horizontal member of the subfloor according to Table F1D8. Plans are required to confirm compliance.

33. F2D2 – Bathrooms are to be waterproofed in accordance with BCA F2D2, Spec 26 and AS 3740-2021. Plans are required to confirm compliance.

34. F2D4 – Where a floor waste is installed, the continuous fall of a floor plane to the waste must be minimum 1:80 and maximum 1:50. Plans are required to confirm compliance.

35. F3D2 – Metal roof sheeting must be in accordance with AS 1526.1. Provide product certification and plans are required to confirm compliance.

36. F3D3 – Sarking must be in accordance with AS 4200.1 & AS 4200.2. Plans are required to confirm compliance.

37. F3D4 – Glazing within the external wall must be in accordance with AS 2047 and this provision. Plans are required to confirm compliance.

38. F3D5 – The external wall cladding must be in accordance with:
    - Masonry to AS 3700; or
    - Autoclaved aerated concrete to AS 5146.3; or
    - Metal wall cladding to AS 1562.1

Provide product certification and plans are required to confirm compliance. Where the cladding does not meet this provision, it must be assessed on a performance basis (F3P1 Weatherproofing performance Solution Report).

39. F6D3 & F6D7 – Habitable rooms are to be provided with a minimum 10% natural light and 5% natural ventilation. Where natural ventilation is not achievable, a mechanical ventilation or air-conditioning system complying with AS1668.2 is required. Provide calculations including the floor area of the room, area of the window and area of the openable portion of the window to confirm compliance.

40. F6D5 – Artificial lighting is to be provided in required stairways, passageways and ramps and where natural light is insufficient. The artificial lighting system must comply with AS/NZS 1680.0. Electrical details and design certificate are required to confirm compliance.

41. F7D5, F7D6 & F7D7 – A system for sound insulation of the floors/walls is to be provided on plans to demonstrate compliance with F7D5 & F7D6 and also specify the fire rating level (FRL's) in accordance with BCA Spec 5.

42. F7D8 – A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump. A system for sound insulation is to be provided on plans to demonstrate compliance with F7D8.

43. F8D3 – Where a pliable building membrane is installed in an external wall, it must
44. comply with AS 4200.1, be installed in accordance with AS 4200.2 and be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of the building. Plans are required to confirm compliance.

45. F8D4 – Provide details including a design statement to demonstrate compliance with the flow rate and discharge (kitchen, bathroom, sanitary compartment of laundry) of exhaust systems (bathroom – 25 L/s and kitchen & laundry – 40 L/s). Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air.

46. F8D5 – Provide details including a design statement for any ventilation of roof space.

47. Section J Report (Class 2 Buildings) – Energy efficiency report from an appropriately qualified consultant or company demonstrating compliance with applicable clauses in Section J, including NSW variations, of the Building Code of Australia. Note: The Section J commitments are to be illustrated on the final CC plans with the BASIX commitments.

A list of existing, modified or proposed fire safety measures has been created and can be found in Appendix A of the Report.

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APPENDIX A – FIRE SAFETY SCHEDULE

12-16 Stuart Road, Warrawong – Residential Flat Building

Fire Safety Measure	Proposed Standard of Performance
~~Access Panels, doors and hoppers to fire resisting shaft~~	~~BCA C4D11 & AS1735.11-1986, C4D14 & AS1905.1-2015, AS1905.2-2005~~
~~Automatic fail-safe devices~~	~~BCA D324 & D326~~
Automatic fire detection and alarm system	BCA E2D3, Spec 20 – S20C3 (smoke alarm), S20C4 (smoke detection), S20C5 (combination smoke alarm & smoke detection), S20C7 (building occupant warning), AS1670.1-2018 (fire detection) and AS3786-2014 (stand-alone)
~~Automatic fire suppression system~~	~~BCA E1D4, Spec 17, Spec 18 & AS2118.1-2017, AS2118.4-2012 (accommodation buildings < 4 storeys) & AS2118.6-2012 (combined sprinkler and hydrant systems in multi-storey buildings), FPAA101D – 2018 (automatic fire sprinkler system design and installation – drinking water) and FPAA101H – 2018 (automatic fire sprinkler system design and installation – hydrant water supply)~~
Emergency lighting	BCA E4D2, E4D4 & AS/NZS2293.1-2018
~~Emergency lifts~~	~~BCA E3D5 & AS1735.2-2001~~
Exit signs	BCA E4D5, E4D6, E4D8 & AS/NZS2293.1-2018
~~Fire control centres and rooms~~	~~BCA E1D15 & Spec 19 Clause S19C3 to S19C6~~
~~Fire dampers~~	~~BCA C4D13, C4D15 & AS/NZS1668.1-2015, AS1668.2-2012, and AS1668.4-2012~~
~~Fire windows~~	~~BCA C4D5 & Specification 12~~
~~Fire shutters~~	~~BCA Spec 12 & AS1905.2-2005~~
~~Fire-stair pressurisation system~~	~~BCA E2D21 & AS/NZS 1668.1-2015~~
~~Fire doors~~	~~BCA Spec 12 & AS1905.1-2015 & AS1905.2-2005~~
Fire hydrant systems	BCA E1D2 & AS2419.1-2005
Fire seals protecting openings in fire resisting components of the building	BCA C4D13, C4D15 & Spec 13 & AS1530.4-2014
~~Hose reel system~~	~~BCA E1D3 & AS2441-2005~~
Lightweight construction	C2D9 & Spec 6 and Manufacturers details
~~Mechanical air handling system~~	~~BCA E2D3, Spec 21 & AS/NZS1668.1-2015~~
~~Perimeter vehicle access for emergency vehicles~~	~~BCA C3D5~~
Portable fire extinguishers	BCA E1D14 & AS2444-2001
~~Safety curtains in proscenium openings~~	~~BCA I4D15, I4D16 & Spec 32~~
~~Smoke detectors and heat detectors~~	~~BCA E2D3, Spec 20 & AS1670.1-2018, AS3786-2014~~
~~Smoke dampers~~	~~BCA E2D3~~
~~Smoke and heat vents~~	~~BCA E2D3 & Spec 22~~
~~Smoke doors~~	~~BCA Spec C4D5~~
Solid core doors	BCA C4D12
~~Sound systems and intercom systems for emergency purposes~~	~~BCA E4D9 & AS1670.4-2018~~
~~Stand by power systems~~	~~BCA Part G3 & Spec 31~~
~~Wall wetting sprinkler & drencher system~~	~~BCA C4D5 & AS2118.2-2017~~
Warning and operational signs	EPA Regulation (reg 138), BCA E3D4 (lifts) & D3D28 (signs on exit doors)
~~Performance Solution~~	~~Performance Solution Report No.xxxx Rev:xxxx Dated: xxxx, Prepared by xxxx to permit -~~

APPENDIX B – TYPE A, B or C CONSTRUCTION FRL OF BUILDING ELEMENTS

Specification 5 – Fire-resisting construction

1. Scope
This Specification contains requirements for the *fire-resisting construction* of building elements.

General Requirements

S5C1 Scope
This Specification contains requirements for the of building elements. *fire-resisting construction*

S5C2 Exposure to fire-source features
[2019: Spec C1.1: 2.1]

(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 15m 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.

S5C3 Fire protection for a support of another part
[2019: Spec C1.1: 2.2]

(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):
  (a) An element providing lateral support to an *external wall* complying with S5C24(1)
  (b) or C2D12. 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

[2019: Spec C1.1: 2.3]

(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.

S5C5 Method of attachment not to reduce the fire-resistance of building elements

[2019: Spec C1.1: 2.4]

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.*

S5C6 General concessions

[2019: Spec C1.1: 2.5]

(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

(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 verandahs — A balcony, verandah 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.

S5C7 Mezzanine floors: Concession

[2019: Spec C1.1: 2.6]

(1) This Clause does not apply to a Class 9b building that is a spectator stand or audience viewing area accommodating more than 100 persons as calculated according to D2D18.

(2) A *mezzanine* and its supports need not have an FRL or be *non-combustible* provided—

(a) the total *floor area* of all the *mezzanines* in the same room does not exceed 1/3 of the of the room or 200m2, whichever is the lesser; and

(b) the FRL of each wall and column that supports any other part of the building within 6m of the *mezzanine* is increased by the amount listed in Table S5C7.

Table S5C7: Increased FRLs — Construction surrounding mezzanines

Level otherwise *required* for any FRL criterion (mins)	Increase in level to not less than (mins)
30	60
60	90
90	120
120	180
180	240

Table Notes

The increase in level applies to each FRL criterion (*structural adequacy*, *integrity* or *insulation*) relevant to the building element concerned.

S5C8 Enclosure of shafts

[2019: Spec C1.1: 2.7]

(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.

S5C9 Carparks in Class 2 and 3 buildings

[2019: Spec C1.1: 2.8]

(1) If a Class 2 building contains not more than 4 *storeys* of which—

(a) one is Class 7 used solely for the purpose of parking motor vehicles or for some other purpose that is ancillary to a Class 2; and

(b) the remaining *storeys* are of Class 2,

the *carpark storey* is regarded as Class 2 only for the purpose of determining the relevant *fire-resisting* requirements of this Specification.

(2) If a Class 3 building or a building of Class 2 and 3 contains not more than 3 *storeys* of which—
  (a) one *storey* is Class 7 used solely for the purpose of parking motor vehicles or for some other purpose that is ancillary to the other *storeys*; and
  (b) the remaining *storeys* are of Class 2 or 3,
  the *carpark storey* is regarded as Class 2 or 3 only for the purpose of determining the relevant *fire-resisting* requirements of this Specification.

S5C10 Residential care building: Concession
[2019: Spec C1.1: 2.9]
(1) In a Class 3 building protected with a sprinkler system complying with Specification 17 and used as a *residential care building*, any FRL criterion prescribed in Tables S5C11a, S5C11d, S5C11e, S5C11f, S5C11g, S5C21a, , S5C21d, S5C21e, S5C21f, S5C21g, S5C24a, S5C24c and S5C24d—
  (a) for any floor and any *loadbearing* wall, may be reduced to 60, except any FRL criterion of 90 for an *external wall* must be maintained when tested from the outside; and
  (b) for any non-*loadbearing internal wall*, need not apply if—
    (i) it is lined on each side with standard grade plasterboard not less than 13mm thick or similar *non-combustible* material; and
    (ii) it extends—
      (A) to the underside of the floor next above; or
      (B) to the underside of a ceiling lined with standard grade plasterboard not less than 13mm thick or a material with at least an equivalent level of fire protection; or
      (C) to the underside of a *non-combustible* roof covering; and
    (iii) any insulation installed in the cavity of the wall is *non-combustible*; and
    (iv) any construction joint, space or the like between the top of the wall and the floor, ceiling or roof is smoke sealed with intumescent putty or other suitable material.
(3) The concession described at (1) does not apply to *fire-protected timber* building elements.

Type A Fire-Resisting Construction

S5C11 Type A fire-resisting construction — fire-resistance of building elements
[2019: Spec C1.1: 3.1 and Table 3]
(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
    (c) 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 75mm x 50mm 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
  (3) 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
    (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 1.5m 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 25m;

(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.

Table S5C11a: Type A construction: FRL of loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy/ Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/60	120/90/90	180/180/120	240/240/180
3 m or more	90/60/30	120/60/30	180/120/90	240/180/90

Table S5C11b: Type A construction: FRL of non-loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/60/60	–/90/90	–/180/120	–/240/180
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C11c: Type A construction: FRL of external columns not incorporated in an external wall

Column type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing	90/–/–	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C11d: Type A construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-*loadbearing*	90/90/90	120/120/120	180/180/180	240/240/240

Table S5C11e: Type A construction: FRL of loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	90/90/90	120/120/120	180/120/120	240/120/120
Bounding *public corridors*, public lobbies and the like	90/90/90	120/–/–	180/–/–	240/–/–
Between or bounding *sole-occupancy units*	90/90/90	120/–/–	180/–/–	240/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion	90/90/90	120/90/90	180/120/120	240/120/120

Table S5C11f: Type A construction: FRL of non-loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	–/90/90	–/120/120	–120/120	–/120/120
Bounding *public corridors*, public lobbies and the like	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion	–/90/90	–/90/90	–/120/120	–/120/120

Table S5C11g: Type A construction: FRL of other building elements not covered by Tables S5C11a to S5C11f

Building element	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other *loadbearing* internal walls, internal beams, trusses and columns	90/–/–	120/–/–	180/–/–	240/–/–
Floors	90/90/90	120/120/120	180/180/180	240/240/240
Roofs	90/60/30	120/60/30	180/60/30	240/90/60

S5C12 Type A fire-resisting construction — concessions for floors
[2019: Spec C1.1: 3.2]
A floor need not comply with Table S5C11g if—

(c) it is laid directly on the ground; or
(d) 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
(e) 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
(f) it is within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; or
(g) 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 Type A fire-resisting construction — floor loading of Class 5 and 9b buildings: Concession
[2019: Spec C1.1: 3.3]
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.

S5C14 Type A fire-resisting construction — roof superimposed on concrete slab: Concession
[2019: Spec C1.1: 3.4]
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.

S5C15 Type A fire-resisting construction — roof: Concession
[2019: Spec C1.1: 3.5]
A roof need not comply with Table S5C11g if its covering is *non-combustible* and the building—
(a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout; or
(b)has a *rise in storeys* of 3 or less; or
(c)is of Class 2 or 3; or
(d) has an *effective height* of not more than 25m and the ceiling immediately below the roof has a resistance to the *incipient spread of fire* to the roof space of not less than 60 minutes.

S5C16 Type A fire-resisting construction — roof lights
[2019: Spec C1.1: 3.6]
If a roof is *required* to have an FRL or its covering is *required* to be *non-combustible*, roof lights or the like installed in that roof must—

(a) have an aggregate area of not more than 20% of the roof surface; and

(b) be not less than 3 m from—
  (i) any boundary of the allotment other than the boundary with a road or public place; and
  (ii) any part of the building which projects above the roof unless that part has the FRL *required* of a *fire wall* and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C4D5; and
  (iii) any roof light or the like in an adjoining *sole-occupancy unit* if the walls bounding the unit are *required* to have an FRL; and
  (iv) any roof light or the like in an adjoining fire-separated section of the building; and
(c) if a ceiling with a *resistance to the incipient spread of fire* is *required*, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.

S5C17 Type A fire-resisting construction — internal columns and walls: Concession
[2019: Spec C1.1:3.7]
For a building with an *effective height* of not more than 25 m and having a roof without an FRL in accordance with S5C15, in the *storey* immediately below that roof, internal columns other than those referred to in S5C11(1)(d) and *internal walls* other than *fire walls* and *shaft* walls may have—
(a) in a Class 2 or 3 building: FRL 60/60/60; or
(b) in a Class 5, 6, 7, 8 or 9 building—
  (i) with *rise in storeys* exceeding 3: FRL 60/60/60; or
  (ii) with *rise in storeys* not exceeding 3: no FRL.

S5C18 Type A fire-resisting construction — open spectator stands and indoor sports stadiums: Concession
[2019: Spec C1.1: 3.8]
In an *open spectator stand* or indoor sports stadium, the following building elements need not have the FRL specified in Tables S5C11e and : S5C11g:
(a) The roof if it is *non-combustible.*
(b) Columns and *loadbearing* walls supporting only the roof if they are *non-combustible*
  (c) Any non-*loadbearing* part of an external wall less than 3m—
    (i) from any *fire-source feature* to which it is exposed if it has an FRL of not less than –/60/60 and is *non- combustible*; or
    (ii) from an *external wall* of another *open spectator stand* if it is *non-combustible.*

S5C19 Type A fire-resisting construction — carparks
[2019: Spec C1.1: 3.9 and Table 3.9]
(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

(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:

(ii) Loadbearing: 60/60/60.

(A) Non-loadbearing: –/60/60.

(B) 3m 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/–/–.

(i) Supporting only the roof (not used for carparking): –/–/–.

(ii) 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 only): 60/60/60. *carpark*

(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.

S5C20 Type A fire-resisting construction — _Class 2 and 3 buildings: Concession

[2019: Spec C1.1: 3.10]

(1) In a Class 2 or 3 building with a *rise in storeys* of not more than 3—

(a) notwithstanding C2D10(1) and (2) and C3D7 , timber framing may be used for—

(i) *external walls*; and

(ii) *common walls*; and

(iv) the floor framing of lifts pits; and

(iv) non-*loadbearing internal walls* which are *required* to be *fire-resisting*; and

(v) non-*loadbearing shafts*, except *shafts* used for the discharge of hot products of combustion; and

(vi) spandrels or horizontal construction provided for the purposes of C3D7; and

(b) notwithstanding S5C11(1)(c), for *loadbearing internal walls* and *loadbearing fire walls*—

(i) timber framing may be used; and

(ii) *non-combustible* materials may be used; and

(c) notwithstanding S5C3(1)(c), timber framing may be used for a part of a building that provides support to a part of a building constructed of timber framing or *non-combustible* material in accordance with S5C20(1)(a) and (b).

(2) A Class 2 or 3 building having a *rise in storeys* of not more than 4 may have the top three *storeys* constructed in accordance with (1) provided—

(a) the lowest s*torey* is used solely for the purpose of parking motor vehicles or for some other ancillary purpose; and

(b) the lowest *storey* is constructed of concrete or masonry including the floor between it and the Class 2 or 3 part of the building above; and

(c) the lowest *storey* and the *storey* above are separated by construction having an FRL of not less than 90/90/90 with no openings or penetrations that would reduce the *fire-resisting* performance of that construction except that a doorway in that construction may be protected by a –/60/30 *self-closing* fire door.

(3) In a Class 2 or 3 building complying with (1) or (2) and fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, any FRL criterion prescribed in Tables S5C11a, , S5C11d, S5C11e, S5C11f and S5C11g—

(a) for any floor and any *loadbearing* wall, may be reduced to 60, except any FRL criterion of 90 for an *external wall* must be maintained when tested from the outside; and

(b) for any non-*loadbearing internal wall*, need not apply if—

(i) it is lined on each side with 13mm standard grade plasterboard or *non-combustible* similar material; and

(ii) it extends—

(A) to the underside of the floor next above; or

(B) to the underside of a ceiling with a *resistance o the incipient spread of fire* of 60 minutes; or

(C) to the underside of a *non-combustible* roof covering; and

(iii) any insulation installed in the cavity of the wall is *non-combustible; and*

(iv) any construction joint, space or the like between the top of the wall and the floor, ceiling or roof is smoke sealed with intumescent putty or other suitable material; and

(v) any doorway in the wall is protected by a *self-closing*, tight fitting, solid core door not less than 35 mm thick.

Type B Fire-Resisting Construction

S5C21 Type B fire-resisting construction — fire-resistance of building elements

[2019: Spec C1.1: 4.1 and Table 4]

(3) In a building required to be of Type B construction—

(a) each building element listed in Tables S5C21a, S5C21b, S5C21c, S5C21d, S5C21e, S5C21f and S5C21g, and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular class of building concerned; and

(b) if a stair *shaft* supports any floor or a structural part of it—

(i) the floor or part must have an FRL of 60/–/– or more; or

(ii) the junction of the stair *shaft* must be constructed so that the floor or part will be free to sag or fall in a fire without causing structural damage to the shaft; and

(c) any *internal wall* which is *required* to have an FRL with respect to *integrity* and *insulation*, except a wall that bounds a *sole-occupancy unit* in the topmost (or only) *storey* and there is only one unit in that *storey*, must extend to—
  (i) the underside of the floor next above if that floor has an FRL of at least 30/30/30; or
  (ii) the underside of a ceiling having a *resistance to the incipient spread of fire* to the space above itself of not less than 60 minutes; or
  (c) the underside of the roof covering if it is *non-combustible* 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
  (d) 450 mm above the roof covering if it is combustible; and

(d) 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
  (ii) masonry; or
  (iii) subject to (2), *fire-protected timber*; or
  (iv) any combination of (i) to (iii); and

(e) in a Class 5, 6, 7, 8 or 9 building, in the *storey* immediately below the roof, internal columns and *internal walls* other than *fire walls* and shaft walls, need not comply with Tables S5C21e, S5C21f and S5C21g; and

(f) in a Class 2 or 3 building, except where within the one *sole-occupancy units*, or a Class 9a *health-care building* or a Class 9b building, a floor separating *storeys* or above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, must—
  (i) be constructed so that it is at least of the standard achieved by 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; and

(g) in a Class 9c building a floor above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, and any column supporting the floor must—
  (i) be constructed so that it is at least of the standard achieved by 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 *combustile* or of metal.

(2) For the purposes of (1)(d)(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 25m; 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 S5C21a and Table S5C21b, *external wall* includes any column and other building element incorporated within it or other external building element.

Table S5C21a: Type B construction: FRL of loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes) *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/30	120/90/60	180/120/90	240/180/120
3 m to less than 9 m	90/30/30	120/30/30	180/90/60	240/90/60
9 m to less than 18 m	90/30/–	120/30/–	180/60/–	240/60/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C21b: Type B construction: FRL of non-loadbearing parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 m to less than 3 m	–/60/30	–/90/60	–/120/90	–/180/120
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C21c: Type B construction: FRL of external columns not incorporated in an external wall

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing column — less than 18 m	90/–/–	120/–/–	180/–/–	240/–/–

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing column — 18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
Non-*loadbearing* column	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C21d: Type B construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-*loadbearing*	90/90/90	120/120/120	180/180/180	240/240/240

Table S5C21e: Type B construction: FRL of loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	90/90/90	120/120/120	180/120/120	240/120/120
Bounding *public corridors*, public lobbies and the like	60/60/60	120/–/–	180/–/–	240/–/–
Between or bounding *sole-occupancy units*	60/60/60	120/–/–	180/–/–	240/–/–

Table S5C21f: Type B construction: FRL of non-loadbearing internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Fire-resisting lift and stair *shafts*	–/90/90	–/120/120	–/120/120	–/120/120
Bounding *public corridor*, public lobbies and the like	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*	–/60/60	–/–/–	–/–/–	–/–/–

Table S5C21g: Type B construction: FRL of other building elements not covered by Tables S5C21a to S5C21f

Building element	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other *loadbearing* internal walls and columns	60/–/–	120/–/–	180/–/–	240/–/–
Roofs	–/–/–	–/–/–	–/–/–	–/–/–

S5C22 Type B fire-resisting construction — carparks

[2019: Spec C1.1: 4.2 and Table 4.2]

(1) Notwithstanding S5C21, 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, and if occupying only part of a *storey*, is separated from the remaining part by a *fire wall.*

(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*
  (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 walls*:
    (i) Less than 3m from a *fire source feature* to which it is exposed:
      (A) *Loadbearing*: 60/60/60.
      (B) Non-*loadbearing*: –/60/60.
    (ii) 3m or more from a *fire-source feature* to which it is exposed: –/–/–.
  (b) *Internal walls*:
    (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 walls*:
    (i) From the direction used as a *carpark*: 60/60/60.
    (ii) From the direction not used as a *carpark*: as *required* by Table S5C21d.
  (d) Columns:
    (i) Supporting only the roof (not used for carparking) and 3m 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 26 m2/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 30 m2/tonne.
    (ii) Any other beam: 60/–/–.
  (f) Lift *shaft*: –/–/–.
  (g) Fire-resisting stair shaft (within the *carpark* only): 60/60/60.
  (h) Roof, floor slab and vehicle ramp: –/–/–.

(4) For the purposes of (3), ESA/M means the ratio of exposed surface area to mass per unit length.

S5C23 Type B fire-resisting construction — Class 2 and 3 buildings: Concession
[2019: Spec C1.1: 4.3]

(1) In a Class 2 or 3 building with a *rise in storeys* of not more than 2—
  (a) notwithstanding C2D10(1) and (2), timber framing may be used for—
    (i) *external walls*; and
    (ii) *common walls*; and
    (iii) the floor framing of lifts pits; and
    (iv) non-*loadbearing internal walls* which are *required* to be *fire-resisting*; and
    (v) non-*loadbearing shafts*, except *shafts* used for the discharge of hot products of combustion; and
  (b) notwithstanding S5C21(1)(d), for *loadbearing internal walls* and *loadbearing fire walls*—
    (i) timber framing may be used; and
    (ii) *non-combustible* materials may be used; and
  (c) notwithstanding S5C3(1)(c), timber framing may be used for a part of a building that provides support to a part of a building constructed of timber framing or *non-combustible* material in accordance with S5C23(1)(a) and (b).

(2) A Class 2 or 3 building having a *rise in storeys* of not more than 2 may have the top *storey* constructed in accordance with (1) provided—
  (a) the lowest *storey* is used solely for the purpose of parking motor vehicles or for some other ancillary purpose; and
  (b) the lowest *storey* is constructed of concrete or masonry including the floor between it and the Class 2 or 3 part of the building above; and
  (c) the lowest *storey* and the *storey* above are separated by construction having an FRL of not less than 90/90/90 with no openings or penetrations that would reduce the *fire-resisting* performance of that construction except that a doorway in that construction may be protected by a –/60/30 *self-closing* fire door.

(3) In a Class 2 or 3 building complying with (1) or (2) and fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, any FRL criterion prescribed in Tables S5C21a, S5C21d, S5C21e, S5C21f and—
  (a) for any *loadbearing* wall, may be reduced to 60, except any FRL criterion of 90 for an *external wall* must be maintained when tested from the outside; and
  (b) for any non-*loadbearing internal wall*, need not apply, if—
    (i) it is lined on both sides with 13mm standard grade plasterboard or similar *non-combustible* material; and
    (ii) it extends—
      (A) to the underside of the floor next above if that floor has an FRL of at least 30/30/30 or is lined on the underside with a *fire-protective covering; or*
      (B) to the underside of a ceiling with a *resistance to the incipient spread of fire* of 60 minutes; or
      (C) to the underside of a *non-combustible* roof covering; and
    (iii) any insulation installed in the cavity of the wall is *non-combustible*; and
    (iv) any construction joints, spaces and the like between the top of the wall and the floor, ceiling or roof is smoke sealed with intumescent putty or other suitable material.

Type C Fire-Resisting Construction

S5C24 Type C fire-resisting construction — fire-resistance of building elements
[2019: Spec C1.1: 5.1 and Table 5]

(1) In a building *required* to be of Type C construction—

(a) a building element listed in Tables S5C24a, S5C24b, S5C24c, S5C24d and S5C24e and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and

(b) an *external wall* that is *required* by by Table S5C24a to have an FRL need only be tested from the outside to satisfy the requirement; and

(c) a *fire wall* or an *internal wall* bounding a *sole-occupancy unit* or separating adjoining units must comply with Specification 6 if it is of *lightweight construction* and is *required* to have an FRL; and

(d) in a Class 2 or 3 building, an *internal wall* which is *required* by Table 5C24c or S5C24d to have an FRL must extend—

(i) to the underside of the floor next above if that floor has an FRL of at least 30/30/30 or a *fire-protective covering* on the underside of the floor; or

(ii) *to the underside of a* ceiling having a *resistance to the incipient spread of fire* to the space above itself of not less than 60 minutes; or

(iii) to the underside of the roof covering if it is *non-combustible*, and except for roof battens with dimensions of 75mm x 50mm or less or *sarking-type material*, must not be crossed by timber or other *combustible* building elements; or

(iv) 450mm above the roof covering if it is *combustible*; and

(e) in a Class 2 or 3 building, except where within the one *sole-occupancy unit*, or a Class 9a *health care building*, or a Class 9b building, a floor separating *storeys*, or above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, and any column supporting the floor, must—

(i) have an FRL of at least 30/30/30; or

(ii) have a *fire-protective covering* on the underside of the floor including beams incorporated in it and around the column, if the floor or column is *combustible* or of metal; and

(f) in a Class 9c building a floor above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose, and any column supporting the floor, must—

(i) have an FRL of at least 30/30/30; or

(ii) have a *fire-protective covering* on the underside of the floor including beams incorporated in it and around the column, if the floor or column is *combustible* or of metal.

(2) For the purposes of Table S5C24a and Table S5C24b, *external wall* includes any column and other building element incorporated within it or other external building element.

Table S5C24a: Type C construction: FRL of parts of external walls

Distance from a *fire-source feature*	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/90/90	90/90/90	90/90/90	90/90/90
1.5 to less than 3 m	–/–/–	60/60/60	60/60/60	60/60/60
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C24b: Type C construction: FRL of external columns not incorporated into an external wall

Distance from a *fire-source feature*	FRL (in minutes): *structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Less than 1.5 m	90/–/–	90/–/–	90/–/–	90/–/–
1.5 to less than 3 m	–/–/–	60/–/–	60/–/–	60/–/–
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C24c: Type C construction: FRL of common walls and fire walls

Wall type	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Loadbearing or non-*loadbearing*	90/90/90	90/90/90	90/90/90	90/90/90

Table S5C24d: Type C construction: FRL of internal walls

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Bounding *public corridors*, public lobbies and the like	60/60/60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*	60/60/60	–/–/–	–/–/–	–/–/–
Bounding a stair if *required* to be rated	60/60/60	60/60/60	60/60/60	60/60/60

Table S5C24e: Type C construction: FRL of roof

Location	FRL (in minutes): *Structural adequacy / Integrity / Insulation*			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Roofs	–/–/–	–/–/–	–/–/–	–/–/–

S5C25 Type C fire-resisting construction — carparks

[2019: Spec C1.1: 5.2 and Table 5.2]

(1) Notwithstanding S5C24, 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, and if occupying only part of a *storey*, is separated from the remaining part by a *fire wall*.

(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
  (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 walls:
    (i) Less than 1.5 m from a *fire-source feature* to which it is exposed:
      (A) *Loadbearing*: 60/60/60.
      (B) Non-*loadbearing*: –/60/60.
    (ii) 1.5m or more from a fire-source feature to which it is exposed: –/–/–.

(b) *Internal walls*: –/–/–.

(c) *Fire walls*:

(i) From the direction used as a *carpark*: 60/60/60.

(ii) From the direction not used as a *carpark*: 90/90/90.

(d) Columns:

(i) Steel column less than 1.5m from a *fire source feature* —

(A) 60/–/–; or

(B) ESA/M not greater than 26 m2/tonne.

(ii) Any other column not less than 1.5 m from a *fire source feature*: 60/–/–.

(iii) Any other column not covered by (i) or (ii): –/–/–.

(e) Beams:

(i) Steel floor beam, less than 1.5m from a *fire source feature*, in continuous contact with a concrete floor slab—

(A) 60/–/–; or

(B) an ESA/M of not greater than 30 m2/tonne.

(ii) any other beam: 60/–/–.

(iii) more than 1.5m from a *fire source feature*: –/–/–.

(f) Roof, floor slab and vehicle ramp: –/–/–.

(4) For the purposes of (3), ESA/M means the ratio of exposed surface area to mass per unit length.

APPENDIX C – SPECIFICATIONS 17 AND 18

Spec 17 – Fire Sprinkler Systems

S17C1 Scope

[2019: Spec E1.5: 1]

This Specification sets out requirements for the design and installation of fire sprinkler systems.

VIC S17C2

S17C2 Application of automatic fire sprinkler standards

[2019: Spec E1.5: 2]

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

(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

[2019: Spec E1.5: 3]

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.

S17C4 Protection of openings

[2019: Spec E1.5: 4]

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.

S17C5 Quick response sprinklers

[2019: Spec E1.5: 5]

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.

S17C6 Sprinkler valve enclosures

[2019: Spec E1.5: 6]

(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*.

S17C7 Water supply

[2019: Spec E1.5: 7]

(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 a 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.

S17C8 Building occupant warning system

[2019: Spec E1.5: 8]

A *required* sprinkler system, except a FPAA101D sprinkler system, must be connected to and activate a building occupant warning system complying with S20C7.

S17C9 Connection to other systems

[2019: Spec E1.5: 9]

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.

S17C10 Anti-tamper devices

[2019: Spec E1.5: 10]

(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.

(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

[2019: Spec E1.5: 11]

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*.

S17C12 Residential care buildings

[2019: Spec E1.5: 12]

(1) In addition to the provisions of AS 2118.4, a sprinkler system in—

(a) a Class 3 building used as a *residential care building*; or

(b) a Class 9a *health-care building* used as a *residential care building*; or

(c) a Class 9c building,

must comply with sub-clause (2).

(2) Any sprinkler system referred to in (1) must—

(a) be provided with a monitored main stop valve in accordance with AS 2118.1; and

(b) be permanently connected with a direct data link or other approved monitoring system to a fire station or fire station dispatch centre.

S17C13 Sprinkler systems in lift installations

[2019: Spec E1.5: 13]

(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).

S17C14 Early childhood centres

[New for 2022]

Quick response sprinklers must be provided to a Class 9b *early childhood centre required* to have an *automatic* fire sprinkler system.

Limitations

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.

Spec 18 – Class 2 and 3 buildings not more than 25m in effective height

S18C1 Scope

[2019: Spec E1.5a: 1]

This Specification sets out requirements for the design and installation of fire sprinkler systems, and concessions for Class 2 and 3 buildings not more than 25 m in *effective height* with a *rise in storeys* of 4 or more.

S18C2 Application

[2019: Spec E1.5a: 1]

The *Deemed-to-Satisfy Provisions* of this Specification take precedence where there is a difference to the *Deemed-to-Satisfy Provisions* of Sections C, D and E.

S18C3 System requirements

[2019: Spec E1.5a: 2]

VIC S18C3(1)

(1) A *required automatic* fire sprinkler system installed in 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 must comply with—

(a) AS 2118.1; or

(b) AS 2118.4, as applicable; or

(c) FPAA101D, except for *residential care buildings*; or

(d) FPAA101H, except for *residential care buildings*.

(2) A Class 2 or 3 building not more than 25 m in *effective height* with a *rise in storeys* of 4 or more provided with an *automatic* fire sprinkler system under (1)(a) or (1)(b) may be constructed in accordance with S18C4(1), as applicable, provided—

(a) the *automatic* fire sprinkler system is permanently connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with Specification 23 if—

(i) the system has more than 100 sprinkler heads; or

(ii) in the case of a *residential care building*, the building will accommodate more than 32 residents; and

(b) the *automatic* fire sprinkler system is fitted with sprinklers complying with clauses 4.4, 4.5 and 5.5.2 of AS 2118.4 in bedrooms; and

(c) an *automatic* smoke detection and alarm system is installed in accordance with Specification 20 except that it need not be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre, and in the case of a *residential care building* it must be installed in accordance with—

(i) S20C4; or

(ii) both—

(A) S20C3, provided S20C3(1)(b) is applied as if the building was not protected with a sprinkler system; and

(B) Specification 23; and

(d) in a *residential care building*, the *automatic* smoke detection and alarm system and the *automatic* fire sprinkler system are connected to a local fire indicator panel provided in accordance with Specification 23; and

(e) fire orders are provided in a Class 3 building in accordance with G4D8 as for a building in an *alpine area*.

S18C4 Permitted concessions

[2019: Spec E1.5a: 3]

(1) The following concessions are permitted for Class 2 and 3 buildings provided with a *required automatic* fire sprinkler system in accordance with S18C3(1)(a) or (1)(b):

(a) The FRL for *self-closing* fire doors, as *required* by C4D9 and C4D12, may be reduced to not less than –/30/30.

(b) The FRL for—

(i) all non-*loadbearing internal walls* and *shafts* constructed of *fire-protected timber*, as *required* by Specification 5 to have FRLs greater than –/60/60, may be reduced to –/60/60 and service penetrations through non-*loadbearing internal walls* and *shafts* constructed of *fire-protected timber*, *required* by C4D15, may be reduced to not less than –/60/15; and

(ii) all other non-*loadbearing internal walls*, as *required* by Specification 5, may be reduced to –/45/45 and the FRL for service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/45/15.

(c) The FRL for *fire-isolated stairways* enclosed with non-*loadbearing* construction, as *required* by D2D4, may be reduced to –/45/45.

(d) Except in a *residential care building*, the maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(e) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(f) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.

(g) Internal fire hydrants in accordance with E1D2 are not *required* where—

(i) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1D2, except that in a *residential care building* the nozzle at the end of the length of hose need only reach the entry door of any *sole-occupancy unit* to be considered as covering the area within the *sole-occupancy unit*; or

(ii) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building and—

(A) each fire hydrant head is located in accordance with E1D2 and fitted with a blank end cap or plug; and

(B) the pipework is installed in accordance with E1D2 (as for a *required* fire main) except that it need not be connected to a water supply; and

(C) a hydrant booster inlet connection is provided in accordance with E1D2; and

(D) an external street or feed hydrant capable of providing the *required* system flow is located within 60 m of the hydrant booster connection.

(h) An emergency warning and intercom system need not be provided in a *residential care building* in accordance with E4D9 if a warning system with an override public address facility is installed in accordance with Specification 23.

(2) The following concessions are permitted for Class 2 and 3 buildings provided with a *required automatic* fire sprinkler system in accordance with S18C3(1)(c):

(a) Window openings need not be protected in accordance with C4D12(8) provided the room served by the window is sprinkler protected.

(b) The FRL for—

(i) service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/60/15; and

(ii) non-*loadbearing fire-resisting* lift and stair *shafts*, as *required* by Specification 5, may be reduced to –/60/60.

(c) The maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(d) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(e) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.

(f) Internal fire hydrants in accordance with E1D2 are not *required* where—

(i) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1D2; or

(ii) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building except—

(A) the system pipework is not connected to the water supply; and

(B) an on-site fire pumpset is not *required*; and

(C) the minimum fire hydrant outlet flow of 6 L/s may be achieved when boosted by a *fire brigade* pumping appliance; and

(D) the minimum pipe sizes specified in AS 2419.1 do not apply.

(g) Where a dry fire hydrant system is installed for the purposes of (f)—

(i) each fire hydrant head must be located in accordance with E1D2 and fitted with a blank end cap or plug; and

(ii) a hydrant booster inlet connection must be provided in accordance with E1D2; and

(iii) an external street or feed hydrant capable of providing the *required* system flow must be located within 60 m of the hydrant booster connection.

(3) The following concessions are permitted for Class 2 and 3 buildings provided with a *required automatic* fire sprinkler system in accordance with S18C3(1)(d):

(a) Window openings need not be protected in accordance with C4D12(8) provided the room served by the window is sprinkler protected.

(b) The FRL for—

(i) service penetrations through non-*loadbearing internal walls* and *shafts*, as *required* by C4D15, may be reduced to –/60/15; and

(ii) non-*loadbearing fire-resisting* lift and stair *shafts*, as *required* by Specification 5, may be reduced to –/60/60.

(c) The maximum distance of travel, as *required* by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(d) The maximum distance of travel from a single *exit* serving the *storey* at the level of egress to a road or *open space*, as *required* by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(e) The maximum distance between alternative *exits*, as *required* by D2D6(c)(i), may be increased from 45 m to 60 m.