



**BUILDING
INNOVATIONS
AUSTRALIA**

BCA 2022 A2 INDICATIVE COMPLIANCE REPORT FOR DA LODGEMENT

**251-257 Maroubra Road &
133 Garden Street,
Maroubra NSW 2035**



Prepared for: BWSLD Maroubra Pty Ltd
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Document History

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1.0. INTRODUCTION

1.1. Location and Description

This report is prepared in preparation of a Development Application (DA) lodgement and is for assessment purposes, it comprises a National Building Code of Australia 2022 Amendment 2 (NBCA) assessment of the proposed mixed use building as required under Section 19 of the Environmental Planning and Assessment Regulations.

The development incorporates the demolition of existing structures and construction of a new mixed-use building comprising of one-hundred and twenty (120) residential apartments, a Childcare Centre on the Ground Floor, and associated car parking spaces located in the four (4) Basement levels.



Figure 1 *Site location and topography*

1.2. Report Purpose

The purpose of this report is to provide an indicative compliance assessment of the DA design documentation for the proposal, against the current requirements of the BCA.

Demonstrating compliance with the BCA is not a prescribed head of consideration under Section 4.15 (formally Section 79C) of the Environmental Planning & Assessment Act 1979. It is noted however that Council has an obligation to consider whether the DA proposal, as lodged, is indicatively capable of complying with the BCA - without significant modification to those plans for which approval is sought.

This report will demonstrate that there will be no additional requirements, resulting from prescribed application of the BCA, for any significant design changes that would necessitate the submission of an application under Section 4.55 (formally Section 96) of the Environmental Planning and Assessment Act 1979.

As such, and to pre-empt the Certifying Authority's role under Section 19 of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021, we have undertaken a preliminary assessment of the development against the provisions of the BCA applicable to the lodged Development Application.



1.3. Basis of Report

This report is based upon and limited to:

- An assessment of design documentation referenced in Appendix B of this report.
- The Deemed-to-Satisfy provisions of the National Building Code of Australia 2022 Amendment 2 including the NSW variations where applicable.

1.4. Referenced Documents

The following documentation was relied upon when preparing this report:

- Assessment of design documentation referenced in Appendix B of this report.
- The performance and deemed-to-satisfy provisions of the National Building Code of Australia 2022 Amendment 2 incorporating the NSW Appendices where applicable.
- Guide to the National Building Code of Australia.
- Disability (Access to Premises — Buildings) Standards 2010.
- Environmental Planning & Assessment Act 1979.
- Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021.

1.5. Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- The plans are assessed indicatively to the extent necessary to proceed to construction certificate stage whereby assessment will be undertaken pursuant to Part 4A of the Environmental Planning and Assessment Act 1979. This means that the design has been assessed to be able to comply with the BCA (i.e. the submitted plans are consistent with the BCA but certain design details may not be specified at this stage due to the plans and specifications being at pre DA stage).
- This Report does not address issues in relation to the following:
 - a) The structural adequacy of the building including the Fire Resistance Levels (FRL's) of any building elements (unless specifically referred to).
 - b) The design, maintenance or operation electrical, mechanical, hydraulic or fire protection services.
 - c) Environmental Planning and Assessment Act and Regulations (unless specifically referred to).
 - d) Local Government Act and Regulations.
 - e) Occupational Health and Safety Act and Regulations.
 - f) WorkCover Authority requirements.
 - g) Requirements of other Regulatory Authorities including, but not limited to, Telstra, Sydney Water, Electricity Supply Authority, RTA, Council and the like.
 - h) Disability Discrimination Act (DDA) other than minimum requirements under the Disability (Access to Premises — Buildings) Standards 2010. DDA is a Case by Case Assessment, this building will comply with the set items under the Premises Standards.
 - i) Construction Safety Act.
 - j) Conditions of Development Consent issued by the relevant Local Council.
- This assessment does not incorporate the detailed requirements of the Australian Standards.



- Building Innovations Australia Pty Ltd cannot guarantee acceptance of this report by the Local Council, NSW Fire Brigades or other approval authorities.
- Without written permission from Building Innovations Australia Pty Ltd, no part of this document may be reproduced in any form or by any means. This report is based solely on client instructions, and therefore should not be used by any third party without prior knowledge of such instructions.
- Section 37 of the Design and Building Practitioners Act (2020) outlines the "Extension of duty of care" for designing and building, which is owed to the landowner by person(s) carrying out "construction work".

"Construction work" is defined within the Design and Building Practitioners Act (2020) by any of the following:

- a) "building work";
- b) the preparation of regulated designs and other designs for "building work";
- c) the manufacture or supply of a "building product" used for "building work";
- d) supervising, coordinating, project managing or otherwise having substantive control over the carrying out of any work referred to in paragraph (a), (b) or (c).

"Building work" includes residential building works within the meaning of the Home Building Act 1989.

"Residential building work" is defined within Part 3B within Home Building Act 1989, and includes the following:

- (a) specialist work,
- (b) work under this Act that impacts other land or buildings,
- (c) work that relates to, or leads to, other residential building work, including work referred to in paragraphs (a) and (b).

"Specialist work" is defined within the Home Building Act 1989 as the following work whether done or not done in connection with a dwelling (including work done in connection with commercial or industrial work):

- (a) plumbing and drainage work, other than roof plumbing work,
 - (a1) mechanical services and medical gas work,
 - (a2) medical gasfitting work,
 - (a3) medical gas technician work,
- (b) gasfitting work
- (c) electrical wiring work,
- (d) any work declared by the regulations to be refrigeration work or air-conditioning work.

- Building Innovations Australia (BIA) is strictly limited to provided general consultancy advise based on information provided by the client, and do not undertake any design works as part of our scope of works.
- BIA therefore strictly does not provide any "construction work", "building work", or "specialist work" as defined by Section 37 of the Design and Building Practitioners Act (2020) and the Home Building Act (1989).
- The "construction work", "building work" and "specialist work" are the responsibilities of suitably qualified personnels engaged for this project by the client / landowner, to ensure all items of the proposed development complies.
- BIA are not responsible in the management, coordination, or supervision or the like for any construction works or design works of the development. The design works provided are prepared externally by other qualified designers, design practitioners, accredited consultants, licensed contractors or the like who are responsible for providing BIA with the accurate project information and design for us to generally assess.
- Our engagement is contingent upon the appointment of suitably qualified designers, design practitioners, and accredited builders, consultants, and licensed contractors. It is the sole responsibility of the Builder, Developer, and Project Manager to verify that all contracted parties hold the necessary credentials. Failure to engage appropriately accredited personnel shall constitute a material breach, rendering this agreement null and void and indemnifying us from all subsequent liability
- Building Innovations Australia provides general advice and **does not own responsibility** or undertake any works for the following, which includes but is but not limited to:
 - Managing, directing, supervising, or controlling project construction works;
 - Coordinating or controlling contractors, subcontractors, suppliers, or trades involved in this project;



- Providing responsibility for construction management, project management, site supervision, compliance-related site inspection, contract administration, quality control, or workmanship certification;
- Providing responsibility for temporary works, site safety, workmanship, tolerances, quality control, or sequencing construction methods;
- Providing verification of compliance of constructed works against the proposed designs (unless explicitly provided as a statement in writing);
- Providing any observations from site inspections outside of the explicit scope of this fee proposal. These site inspections are limited to the scope, intermittent in nature, and undertaken solely for the purpose of obtaining general familiarity with the progress of the development works. Such site inspection observations do not constitute supervision, inspection, or certification of the works and are not approved to be relied upon as confirmation of compliance with the proposed designs or applicable standards;
- Providing responsibility of construction accuracy, workmanship, construction material selection, installation, coordination between trades, or compliance with the proposed design documentations. These listed responsibilities rest entirely with the development builder, contractor, and relevant site personnel;
- Having liability for any defects, failures, damages, or non-compliances arising from construction errors or omissions, deviations from the proposed design documentations, poor workmanship or inappropriate construction practices, or site conditions / site decisions beyond the scope and control of the design documentations provided by the design consultants.

1.6. Legislative Framework

Section 4.15 (formally Section 79C) of the Environmental Planning and Assessment Act provides the matters of consideration that the consent authority must take into account in the determination of a development application.

Once development consent is granted, and pursuant to Section 19 of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021, a certifying authority must not issue a construction certificate for building work unless:

- (a) *the relevant building work plans and specifications include the matters required by a relevant BASIX certificate, if any, and*
- (b) *the design and construction of the building, as described in the relevant building work plans and specifications and in other information given to the certifier under section 12, is consistent with the development consent, and*
- (c) *the building will comply with the relevant requirements of the Building Code of Australia as in force at the time the application for the construction certificate was made.*

Compliance with the National Building Code of Australia

The BCA is a performance based document whereby compliance can be achieved by satisfying the deemed to satisfy requirements or by formulating an alternative solution to address the relevant performance requirements.

As indicated above, the requirements of the Environmental Planning and Assessment Regulations requires all new building works to comply with the relevant requirements of the BCA (as in force at the time the application for the construction certificate was made).

This means that the plans and documentation submitted with the *construction certificate* (CC) application must demonstrate full compliance with the relevant provisions of the Building Code of Australia.



Section 14 Fire protection and structural capacity

If your development incorporates a Change of Use, Category 1 fire safety measures must be considered and implemented into the design as applicable:

- E1P3: A fire hydrant system*
- E1P4: An automatic fire suppression system*
- E1P6: Suitable facilities must be provided to the degree necessary in a building to co-ordinate fire brigade intervention*
- E2P1: Sleeping Accommodation, occupants must be provided with automatic warning*
- E2P2: Conditions in any evacuation route must be maintained for the period of time occupants take to evacuate*
- E3P2: One or more passenger lifts fitted as emergency lifts to serve each floor served by the lifts in a building must be installed to facilitate the activities of the fire brigade and other emergency services personnel*

Details of the above will need to be identified on the Building Fire Safety Schedule/Statement as present, if not present; these measures will need to be installed in to the building if applicable.

Referral of certain plans and specifications to New South Wales Fire Brigades

Under the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021, Section 18 and Sections 25-29 have specific requirements for any Fire Engineering which identifies Category 2 fire safety provisions which form part of a building being more than 6,000m² and/or within a Fire Compartment more than 2,000m².

Category 2 means the following provisions of the Building Code of Australia, namely, C1P9, E1P3, E1P4, E1P6, E2P2 and E3P2 in Volume One of that Code

If this building has a floor area of more than 6,000m² or a performance solution is proposed within a fire compartment more than 2,000m², any Performance Solution which identifies one or more of the above performance provisions, Fire Brigade approval is required in the form of a Section 25-29 (formally Cl. 144) Approval along with a required Engineering Statement under Section 18 (formally Cl. 144A) and following the completion of the building a Section 50 (formally Cl. 152) Report from the Fire Commissioner is required, a final fire safety report for a building means a written report specifying whether or not the Fire Commissioner is satisfied that:

- (a) the building work complies with a performance solution for a Category 2 fire safety provision that was the subject of the construction certificate, and
- (b) the fire hydrants in the fire hydrant system will be accessible for use by Fire and Rescue NSW, and
- (c) the couplings in the fire hydrant system will be compatible with the fire appliances and equipment used by Fire and Rescue NSW.



Fulfilment of BASIX Commitments (Residential only)

Section 43 of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021 requires a certifying authority to monitor fulfilment of any commitments listed on the BASIX certificate, where the BASIX requires the certifying authority to monitor those commitments.

A certifying authority must not issue an occupation certificate (whether interim or final) for any building resulting from, or any building that becomes a BASIX affected building because of, BASIX affected development or BASIX optional development to which this clause applies, or for any part of such a building, unless each of the commitments whose fulfilment it is required to monitor in relation to the building or part has been fulfilled.

For the purpose of satisfying itself as to the fulfilment of any such commitment, a certifying authority may rely on the advice of any properly qualified person (i.e. Energy Efficiency Consultant).

Special Requirements for Residential Flat Developments

Section 15 (formally Cl. 143A) of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021 requires a qualified designer to provide a statement that verifies that the plans and specifications that form part of construction certificate application achieve or improve the design quality of the development having regard to the design quality principles set out in Part 2 of the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development prior to the issue of a Construction Certificate.

Section 43 (formally Cl. 154A) of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021 requires a qualified designer to provide a statement that verifies that the residential flat development achieves the design quality of the development as shown in the plans and specifications having regard to the design quality principles set out in Part 2 of the State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development prior to the issue of an Occupation Certificate.

Disability (Access to Premises — Buildings) Standards 2010

Disability (Access to Premises — Buildings) Standards 2010 has been introduced and is applicable to this building. It is noted that unless Part D4, Clauses E3D7, E3D8, F4D5, F4D6 & F4D7 are included in the below assessment, an access consultant may need to be engaged to provide specific comments as to compliance with this standard. Note that except for slight variations, particularly for Class 1b buildings, available verification methods and adult change facilities, as this is a new building to BCA 2022 A2, compliance with the Disability (Access to Premises — Buildings) Standards 2010 would inherently comply.



1.7. Terminology

- *Building Code of Australia* - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.
- *Fire Resistance Level (FRL)* - means the grading periods in minutes tested in accordance with AS 1530.4-2014 for the following criteria -
 - (a) structural adequacy; and
 - (b) integrity; and
 - (c) insulation,and expressed in that order.
- *Fire Source Feature (FSF)* - the far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.
- *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* - 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 a Performance Solution which-
 - (i) complies with the Performance Requirements; or
 - (ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or
 - (c) a combination of (a) and (b).
- *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.



2.0. BUILDING DESCRIPTION – PROPOSED DEVELOPMENT

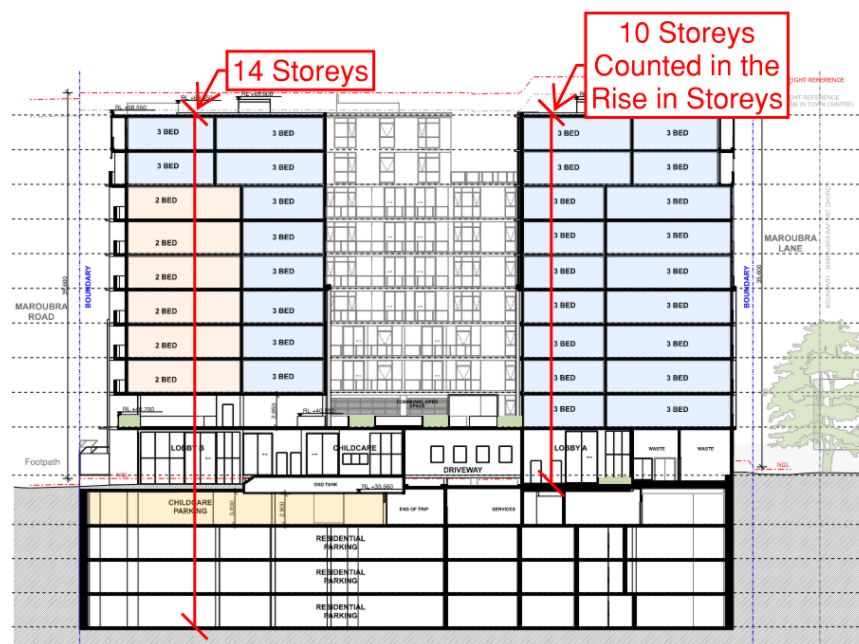
2.1. Building Code of Australia Description

For the purposes of the Building Code of Australia 2022 A2 (BCA) the proposed development may be described as follows.

2.2. Rise in Storeys (RIS) (Clause C2D3)

The overall building has a rise in storeys of ten (10)** as illustrated below;

The number of storeys contained is fourteen (14)*.



* A *storey*, as defined by the BCA, is the space within a building situated between one floor level and the next level, or if there is no floor above, the ceiling or roof above, and doesn't exclude levels under the ground floor.

**The *rise in storeys*, as determined by the BCA, is the sum of the storeys counted in the rise in storeys, as defined in Clause C4D3.



2.3. Building Classifications (Part A6)

The proposed building has been classified as follows.

BUILDING LEVELS	PLAN LEVELS	CLASSIFICATION	USE	RIS
Basement 4	Basement 04 Floor Plan	Class 7a	Carpark	-
Basement 3	Basement 03 Floor Plan	Class 7a	Carpark	-
Basement 2	Basement 02 Floor Plan	Class 7a	Carpark	-
Basement 1	Basement 01 Floor Plan	Class 7a	Carpark	-
Ground Floor	Ground Floor Plan	Class 9b	Childcare Centre	1
First to Ninth Floor	Level 01-09 Floor Plan	Class 2	Residential	2-10
Roof	Roof Plan	Class 2	Residential	-

2.4. Effective Height (Schedule 1)

The building has an effective height (EH) of approximately **30.885m** when measured from the floor of the topmost storey which is greater than 25m but less than 50m.

*Lowest Point taken @ RL 34.265 (Approx.)

*Highest Point taken @ RL 65.150



2.5. Type of Construction (Table C2D2)

The building is required to be of **Type 'A'** Construction.



2.6. Floor Area and Volume Limitations (Table C3D3).

The building is subject to maximum floor area and volume limits under Type 'A' Construction of:

Class of Building Part	Floor Area & Volume		Outcome
	Max Permitted (Table C2.2)	Max. Proposed	
▪ Class 7a	5,000 m ²	< 5,000 m ²	Complies
	30,000 m ³	< 30,000 m ³	
▪ Class 9b	8,000 m ²	< 8,000 m ²	Complies
	48,000 m ³	< 48,000 m ³	

**Class 7a is exempt from Table C3D3 Floor Area restrictions if Carpark is proposed to be Sprinkler Protected pursuant to Clause E1D4.*

The Class 2 portions of the building are not subject to any floor area and volume limitations of C3D3 of the BCA. Table S5C11a–g of Specification 5 and C4D12 of the BCA regulate compartmentalisation and separation provisions applicable to Class 2 buildings or building portions.

2.7. Fire protection and structural capacity (Section 14, formally Cl. 143)

If your development incorporates a Change of Use, Category 1 fire safety measures must be considered and implemented in to the design as applicable.

E1P3: A fire hydrant system (required)

E1P4: An automatic fire suppression system

E1P6: Suitable facilities must be provided to the degree necessary in a building to co-ordinate fire brigade intervention

E2P1: Sleeping Accommodation, occupants must be provided with automatic warning

E2P2: Conditions in any evacuation route must be maintained for the period of time occupants take to evacuate

E3P2: One or more passenger lifts fitted as emergency lifts to serve each floor served by the lifts in a building must be installed to facilitate the activities of the fire brigade and other emergency services personnel

2.8. Fire Brigade referral (Sections 25-29, formally Cl. 144)

If this building requires Fire Engineering referral would need to be forwarded to the NSW Fire Brigades under a Section 25-29 fire brigade referral.



3.0. BCA REQUIREMENTS

Noting that the level of documentation at this stage is for a Development Application (DA) assessment purposes, an indicative compliance assessment of the referenced documents identified in Appendix B of this report has been undertaken against the Deemed-to-Satisfy Provisions of the National Building Code of Australia 2022 Amendment 2 (BCA).

Outlined below is a summary of the Deemed-to-Satisfy Provisions of the BCA. All Deemed-to-Satisfy clauses that are applicable to the subject building have been referred to below, including a comment adjacent to each clause of the proposal's ability to satisfy each respective clause.

The abbreviations outlined below have been used in the following tables:

N / A	The Deemed-to-Satisfy clause does not apply to the subject Building.
Complies	The relevant provisions of the Deemed-to-Satisfy clause have been demonstrated by the proposed design and existing building features, notwithstanding it is at consent stage.
CRA	'Compliance Readily Achievable'. It is considered that the level of detail included in the consent-level documentation will not determine strict compliance with the individual BCA clause requirements. However, subject to noting the requirements of each clause, it is considered BCA compliance can be readily demonstrated without significant implication to the approved design. This will occur through progression of documentation to the Construction Certificate stage of the development.
FI	Further information is necessary to determine the compliance potential of the building design.
PS	Performance Solution with respect to this Deemed-to-Satisfy Provision is possible to satisfy the relevant BCA Performance Requirements.
DNC	Does Not Comply.
DTS	Deemed-To-Satisfy provisions as defined by the National Building Code of Australia 2022 A2.



3.1. BCA 2022 A2 Clause by Clause Assessment

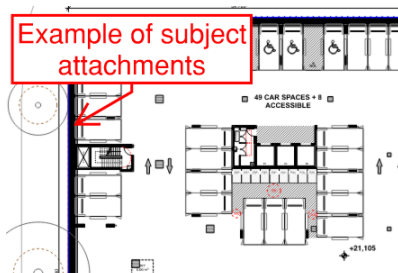
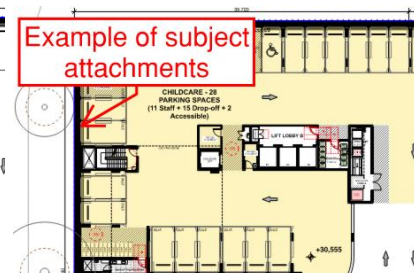
SECTION B – STRUCTURE

Part B1 – Structural Provisions			
Clause	Description	Status	Comments
B1D1	Deemed-to-Satisfy Provisions	-	-
B1D2	Resistance to actions	CRA	The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions. Structural details and a design certificate will be obtained from a qualified structural engineer prior to the issue of a Construction Certificate.
B1D3	Determination of individual actions	CRA	The magnitude of individual actions must be determined in accordance with Clause B1D3 of the BCA. Structural details and a design certificate will be obtained from a qualified structural engineer prior to the issue of a Construction Certificate.
B1D4	Determination of structural resistance of materials and forms of construction	CRA	The structural resistance of materials and forms of construction must be determined in accordance with the relevant Australian Standards in accordance with Clause B1D4 of the BCA. Structural details and a design certificate will be required by a qualified structural engineer prior to the issue of a Construction Certificate.
B1D5	Structural Software	Noted	
B1D6	Construction of buildings in flood hazard areas	Noted	



SECTION C – FIRE RESISTANCE

Part C2 – Fire Resistance and Stability			
Clause	Description	Status	Comments
C2D1	Deemed-to-Satisfy Provisions	-	-
C2D2	Type of construction required	Noted	The building is to be erected in Type 'A' fire resisting construction in accordance with Specification 5 of the BCA. Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.
C2D3	Calculation of rise in storeys	Noted	The building has an overall rise in storeys of ten (10). The building contains fourteen (14) storeys.
C2D4	Buildings of multiple classification	Noted	The building is required to be constructed of Type 'A' fire resisting construction as the classification of the top storey is a Class 2.
C2D5	Mixed types of Construction	Noted	If a fire wall divides the building in accordance with Clause C3D8, the building portions are able to be constructed in differing levels of fire-resistance determined in accordance with Clause C2D2 and C2D4.
C2D6	Two storey Class 2, 3 or 9c buildings	N / A	
C2D7	Class 4 parts of buildings	N / A	
C2D8	Open spectator stands and indoor sports stadiums	N / A	
C2D9	Lightweight construction	CRA or PS	Lightweight construction used in a wall system must comply with Specification 6. Lightweight construction used as a fire-resisting covering of a steel column or the like, and where the covering is not in continuous contact with the column must have the voids filled to a height of not less than 1.2m above the floor and where the column is liable to be damaged must be protected by steel or other suitable material. If lightweight construction is used in the proposed development, then details demonstrating required FRL and compliance with this clause must be provided prior to the issue of a Construction Certificate.

Part C2 – Fire Resistance and Stability																			
Clause	Description	Status	Comments																
C2D10	Non-combustible building elements	CRA or PS	In a building required to be of Type A construction, the following building elements and their components must be non-combustible, concrete, masonry or fire protected timber:																
			<table><tr><th>Building Element</th><th>Type A Construction</th></tr><tr><td>External wall</td><td>Non-combustible</td></tr><tr><td>Common wall</td><td>Non-combustible</td></tr><tr><td>Floor and floor framing of lift pit</td><td>Non-combustible</td></tr><tr><td>All loadbearing internal walls (including shaft walls)</td><td>Concrete, masonry or fire-protected timber</td></tr><tr><td>Loadbearing fire walls</td><td>Concrete, masonry or fire-protected timber</td></tr><tr><td>Non-loadbearing internal walls required to be fire-resistant</td><td>Non-combustible</td></tr><tr><td>Non-loadbearing lift, ventilating, pipe, garbage and like shafts which do not discharge hot products of combustion</td><td>Non-combustible</td></tr></table>	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 shaft walls)	Concrete, masonry or fire-protected timber	Loadbearing fire walls	Concrete, masonry or fire-protected timber	Non-loadbearing internal walls required to be fire-resistant	Non-combustible	Non-loadbearing lift, ventilating, pipe, garbage and like shafts which do not discharge hot products of combustion	Non-combustible
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			Non-loadbearing internal walls required to be fire-resistant	Non-combustible															
			Non-loadbearing lift, ventilating, pipe, garbage and like shafts which do not discharge hot products of combustion	Non-combustible															
Attachments																			
Proposed attachments are to comply with the requirements of C2D10 and C2D14 of the BCA as applicable:																			
Example of subject attachments  Example of subject attachments 																			
Should materials that do not form part of a tested system be utilised such as Dincel, AFS Rediwall or the like, design certification verifying compliance to be provided or alternatively a fire engineering performance solution can be undertaken prior to the issue of the Construction Certificate.																			
C2D11	Fire hazard properties	CRA	The fire hazard properties of all floor materials, floor coverings, wall and ceiling lining materials must comply with Specification 7. The fire hazard properties of all other materials must comply with Specification 7. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.																
C2D12	Performance of external walls in fire	N / A	Concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, must comply with Specification 8.																



Part C2 – Fire Resistance and Stability			
Clause	Description	Status	Comments
C2D13	Fire-protected timber: Concession	N / A	
C2D14	Ancillary elements	CRA	An ancillary element must not be fixed, installed, attached to or supported by the internal parts or external face of an external wall that is required to be non-combustible unless it is determined to meet certain fire properties and limitations on the extent of coverage. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
C2D15	Fixing of bonded laminated cladding panels	CRA	In a building required to be of Type A or B construction, externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.



Part C3 – Compartmentation and Separation			
Clause	Description	Status	Comments
C3D1	Deemed-to-Satisfy Provisions	-	-
C3D2	Application of Part	Noted	Clauses C3D3, C3D4 and C3D5 do not apply to a sprinkler protected carpark, open deck carpark or open spectator stand.
C3D3	General floor area and volume limitations	CRA	All parts of the building comply and are within compartment limitations.
C3D4	Large isolated buildings	N / A	
C3D5	Requirements for open spaces and vehicular access	N / A	
C3D6	Class 9 buildings	CRA	(2) In a building containing Class 9b early childcare centre: - Unless the Class 9b early childhood centre is the only use in the building, it must be separated from the remainder of the building by walls and/or floors with an FRL not less than that required for a fire wall; and - Each storey within the class 9b early childhood centre must contain not less than 2 fire compartments C3D6(2) does not apply to a Class 9b early childhood centre- (a) wholly within a storey that provides direct egress to a road or open space; or (b) with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in the building. Designer verification to be provided prior to the issue of the Construction Certificate.
C3D7	Vertical separation of Openings in external walls	CRA	In a building of Type 'A' construction that is not sprinkler protected, a spandrel must be provided. The spandrel must be not less than 900mm in height, extended not less than 600mm above the upper surface of the intervening floor and be of non-combustible material having an FRL of not less than 60/60/60. Alternatively, a slab or other horizontal construction that projects outwards not less than 1100mm beyond the external face of the wall and extends 450mm beyond the opening and be of non-combustible material having an FRL of not less than 60/60/60. The building is expected to be protected with a sprinkler system compliant with Clause E1D4 and Specification 17 of the BCA. Please note: if the building is to obtain a fire engineering performance solution to delete the sprinkler system, all spandrels throughout the building are to comply with the requirements of this Clause. Designer verification to be provided prior to the issue of the Construction Certificate.



Part C3 – Compartmentation and Separation			
Clause	Description	Status	Comments
C3D8	Separation by fire walls	Noted	
C3D9	Separation of classifications in the same storey	Noted	Refer to Clause C3D8 if applicable.
C3D10	Separation of classifications in different storeys	CRA	The floor slab separating the different storeys require an FRL of: • Basement 4/basement 3 FRL 120/120/120; • Basement 3/basement 2 FRL 120/120/120; • Basement 2/basement 1 FRL 120/120/120; • Basement 1/ground floor FRL 120/120/120; • Ground/first floor FRL 120/120/120; • First/second floor FRL 90/90/90; • Second/third floor FRL 90/90/90; • Third/fourth floor FRL 90/90/90; • Fourth/fifth floor FRL 90/90/90; • Fifth/sixth Floor 90/90/90; • Sixth/seventh Floor 90/90/90; • Seventh/eighth Floor 90/90/90; and • Eighth/ninth Floor 90/90/90. Note: Floors within the same Class 2 SOU are not required to achieve an FRL as specified in Specification 5 of the BCA. Refer to 'Appendix' A for the relevant fire resisting requirements. Plans to reflect required FRLs prior to the issue of a Construction Certificate.



Part C3 – Compartmentation and Separation			
Clause	Description	Status	Comments
C3D11	Separation of lift shafts	CRA	Any lift connecting more than 2 storeys building must be separated from the remainder of the building with material that achieves a FRL appropriate to that storey as required by Specification 5 and if required to be an emergency lift of not less than 120/120/120. Any opening in the fire-isolated lift shaft must be protected in accordance with Clause C4D11 of the BCA. Design verification to be provided prior to the issue of the Construction Certificate.
C3D12	Stairways and lifts in one shaft	CRA	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft. Both the stairways & lifts appear to be in separate shafts.
C3D13	Separation of equipment	CRA	Equipment that comprises lift motors, lift control panels, central smoke control plant, boilers or batteries must be separated from the remainder of the building by construction with an FRL as required under Specification 5 but not less than 120/120/120 and any doorways in that construction protected with a self-closing –/120/30 fire door. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.



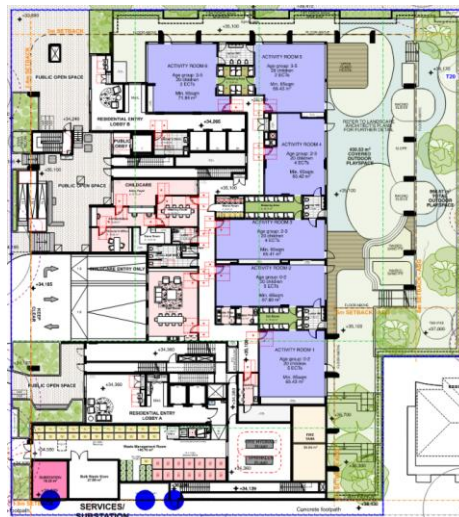
Part C3 – Compartmentation and Separation			
Clause	Description	Status	Comments
Note: Clause 6.11.2 of AS 2419.1-2021 requires that an internal pumproom located within the building shall have the following: • A door opening to a road or open space, or a door opening to fire-isolated passage or stair which leads to a road or open space; and • Except where the building is sprinkler protected in accordance with AS 2118.1, AS 2118.4, AS 2118.6 or FPAA101H, enclosing walls with an FRL not less than that prescribed by the BCA for a firewall for the particular building classifications served by the fire hydrant system.			
C3D14	Electricity supply system	CRA	The following electricity supply equipment: • electrical substation (TBA) • main switchboard which sustains emergency equipment operating in emergency mode (TBA) • electricity conductors which supply substation or main switchboard (TBA) Must be separated from the remainder of the building by construction with an FRL of not less than 120/120/120 and any doorways in that construction protected with a self-closing –/120/30 fire door. Final details verifying compliance can be provided on plans prior to the issue of a Construction Certificate.
C3D15	Public corridors in Class 2 and 3 buildings	CRA	In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with S11C2. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.



Part C4 – Protection of Openings			
Clause	Description	Status	Comments
C4D1	Deemed-to-satisfy Provisions	-	-
C4D2	Application of Part	Noted	Concessions and definition of certain openings.
C4D3	Protection of openings in external walls	PS	Openings within 3m of an allotment boundary shall be protected by sprinklers, fire doors, fire windows etc, in accordance with Clause C4D5 of the BCA. Compliance can be achieved via a fire engineering performance solution undertaken prior to the issue of the Construction Certificate.

The following external wall openings are located within 3m from fire source feature:

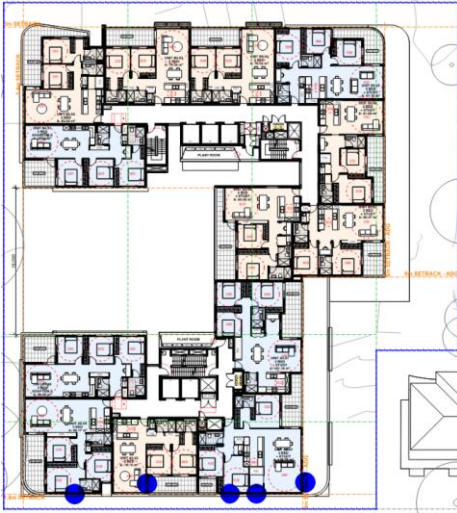
Ground Floor



First to Fourth Floors



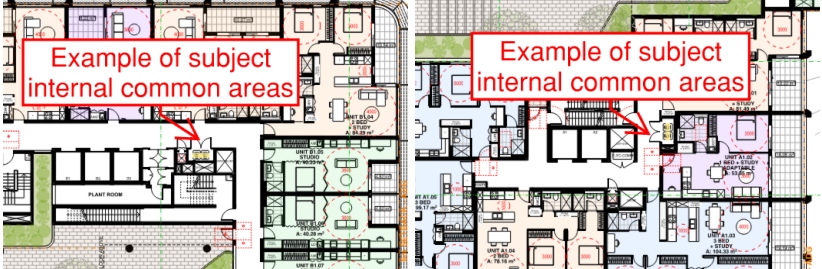


Part C4 – Protection of Openings			
Clause	Description	Status	Comments
Fifth to Seventh Floors			
			
Compliance can be achieved via compliance with Clause C4D5 and Specification 12 of the BCA or alternatively a fire engineering performance solution can be undertaken prior to the issue of the Construction Certificate.			
C4D4	Separation of external walls and associated openings in different fire compartments	CRA	If fire walls are provided, refer to 'Appendix' A for the relevant fire resisting requirements of the fire wall. Plans to reflect required FRLs and location of fire walls (if any are proposed) prior to the issue of a Construction Certificate.
C4D5	Acceptable methods of protection	PS	Window openings that are required to be protected are to be protected by wall wetting sprinklers with windows that are automatic closing or permanently fixed in the closed position, --/60/-- fire windows or --/60/60 automatic fire shutters. Other openings that required to be protected are to be protected by internal or external wall-wetting sprinklers or have construction with an FRL not less than --/60/--. Alternatively a fire engineering performance solution can be undertaken to achieve compliance with the performance requirements of the BCA. Plans to reflect required FRLs and location of openings protected in accordance with Clause C4D5 of the BCA prior to the issue of a Construction Certificate.
C4D6	Doorways in fire walls	CRA	If the ground floor wellness area is to be separated using fire walls, all doors in the fire walls are to be protected in accordance with Clause C4D6 of the BCA. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
C4D7	Sliding fire doors	N / A	



Part C4 – Protection of Openings			
Clause	Description	Status	Comments
C4D8	Protection of doorways in horizontal exits	Noted	
C4D9	Openings in fire isolated exits	CRA	–/60/30 self-closing fire doors are required to doorways providing access to fire isolated passageways. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D10	Service penetrations in fire isolated exits	CRA	Where provided, fire-isolated exits must not be penetrated by any services other than electrical wiring for essential fire service installations, pressurisation ducts with an FRL of –/120/60, or water pipes for fire services are not permissible. <i>Note: Due care to be taken by services consultants to ensure compliance.</i> Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D11	Openings in fire isolated lift shafts	CRA	Openings in lift shafts are to be protected by –/60/– fire doors complying with AS1735.11. Lift indicator panels are to be backed by construction having an FRL of not less than –/60/60 if it exceeds 35,000mm² (175mm X 200 mm). Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D12	Bounding construction: Class 2 and 3 buildings and Class 4 parts	CRA	As this building is Type 'A' construction, doorways of the Class 2 residential sole occupancy units which open into the enclosed common corridors or the like are to be fitted with self-closing FRL –/60/30 fire doors. Additionally, in a Class 2 building where a path of travel to an exit does not provide a person seeking egress with a choice of travel in different directions to alternative exits and is along an open balcony, landing or the like and passes an external wall of another sole-occupancy unit or a room not within a sole-occupancy unit, then that external wall must have any windows or other openings located at least 1.5 m above the floor of the balcony, landing or the like or protected internally in accordance with C4D5. Residential Common Areas The internal common areas within the enclosed residential corridors of the residential floors may not be adequately fire separated with a fire rated wall and doorway as required by this Clause.



Part C4 – Protection of Openings			
Clause	Description	Status	Comments
			 Design certification will be required verifying compliance prior to the issue of a Construction Certificate. Please also note 2 points: 1: Walls within Class 2 and 3 buildings require Sound Ratings under F7. SOU doors are to incorporate an assembly which as an Rw not less than 30 from common areas. 2: The SOU doors however still need to transmit at least 85 or 100 dB(A) depending on the alarms system selected under S2OC6, as part of the Building Occupant Warning System. Occupants within the unit need to hear the buildings alarm system.
C4D13	Openings in floors and ceilings for services	CRA	Services passing through floors are to be placed within fire resisting shafts or in accordance with Clause C4D15. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D14	Openings in shafts	CRA	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage, or other service shaft must be protected by: • If it is 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 • A self-closing –/60/30 fire door or hopper, or • An access panel with an FRL of not less than –/60/30, or • If the shaft is a garbage shaft - a door or hopper of non-combustible construction. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.

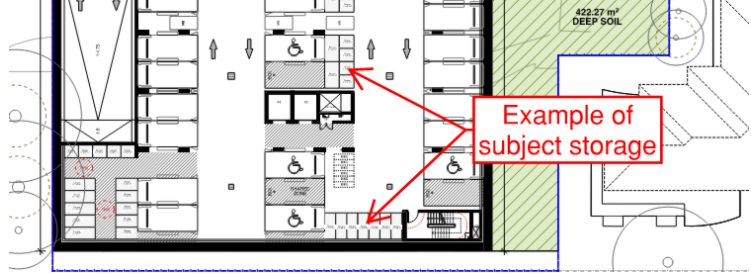


Part C4 – Protection of Openings			
Clause	Description	Status	Comments
C4D15	Openings for service installation	CRA	Where services (e.g. hydraulic, mechanical, plumbing, electrical) penetrate a building element that is required to achieve an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire then that installation must be protected / sealed (e.g. fire collars, fire dampers etc) by material that is identical to tested prototypes and in accordance with AS4072.1 and AS1530.4, and having achieved the required FRL or resistance to the incipient spread of fire or other specified method. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D16	Construction Joints	CRA	Construction joints are to be installed in accordance with a tested prototype in accordance with AS1530.4. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
C4D17	Columns protected with lightweight construction	CRA	Columns must be protected in accordance with the identical tested prototype. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.



Specification 5—Fire-Resisting Construction			
Clause	Description	Status	Comments
Spec 5	Requirements for Type A construction	PS	Clause C2D2 requires the building to be constructed as Type A construction in accordance with Part S5C2-S5C20, Part S5C11-S5C20 and Tables S5C11a–g of Specification 5 of the BCA. External Walls All load-bearing and non-load-bearing bounding walls are required to achieve an FRL tested from both sides as stipulated by Tables S5C11a–g of Specification 5. Attachments All attachments are to comply with the requirements in Specification 5 & Clause C2D11 and meet the intent of Clause S5D5 of Spec 5. Example of subject attachments Example of subject attachments Should material that does not form part of a tested system be utilised such as Dintel, AFS Rediwall or the like, compliance can be achieved via a fire engineering performance solution undertaken prior to the issue of the Construction Certificate. Garbage Rooms The Basement 1 and Ground Floor garbage rooms are to be enclosed with FRL 120/120/120 construction and fitted with FRL –/120/30 fire doors in accordance with Specification 5 of the BCA. Example of garbage rooms Example of garbage rooms Storage Areas Storage within the basement floor levels appears to be greater than 10% of the total floor area.



Specification 5—Fire-Resisting Construction			
Clause	Description	Status	Comments
			 Fire Rated Ground Floor The Ground Floor is provided with reduced FRLs and requires a performance solution due to the multiple classifications. Fire Rated Shelf Angles Any shelf angles provided to the building are to achieve the same FRL as the slab in which it is attached to. Fire Rated Lintels All lintels within walls throughout the building are required to be fire rated. Open State Cavity Barriers Open state cavity barriers are required to achieve an FRL in accordance with Tables S5C11a–S5C11g of Specification 5. Fire Rated Supporting Columns Any external columns supporting the roof structure or any awnings are required to achieve an FRL in accordance with Tables S5C11a–S5C11g of Specification 5. Non-Combustible Walls All loadbearing external and internal walls are required to be of non-combustible construction in accordance with Clauses C2D10, C2D11, C2D14 and Specification 5. AFS Rediwall or Dincel products are not considered to be non-combustible as required. Details verifying compliance must be provided on plans or alternatively a fire engineering performance solution can be undertaken prior to the issue of the Construction Certificate.



SECTION D – ACCESS AND EGRESS

Part D2 – Provision for Escape			
Clause	Description	Status	Comments
D2D1	Deemed-to-Satisfy Provisions	-	-
D2D2	Application of Part	Noted	Does not apply to the internal parts of a sole occupancy unit in a Class 2, 3 or 4 building.
D2D3	Number of exits required	PS	Building has effective height of more than 25m. The basement floors, ground floor and residential parts of the building are required to be provided with not less than two (2) exits. The Ground Floor is provided with one (1) exit in lieu of two (2) exits as required by D2D3(3). Compliance to be achieved by a fire engineering performance solution to be conducted prior to the issuance of the Construction Certificate.
D2D4	When fire-isolated stairways and ramps are required	CRA	In a Class 2 building, a required non-fire-isolated stairway is permitted if it connects, passes through or passes by not more than 3 consecutive storeys and one extra storey if it is only for the accommodation of motor vehicles or for other ancillary purposes, or the building has a sprinkler system (other than a FPAA101D system) complying with Specification 17 installed throughout. In a Class 5, 6, 7, 8 or 9 building, every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if— - the building has a sprinkler system (other than a FPAA101D system) complying with Specification E1.5 installed throughout; or - the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— - an FRL of –/60/60, if non-loadbearing; and - an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if loadbearing; and - no opening that could permit the passage of fire or smoke. D2D4(2) does not apply to— - a Class 9b early childhood centre wholly within a storey that provides direct egress to a road or open space; or - a Class 9b early childhood centre with a rise in storeys of not more than 2, where the Class 9b early childhood centres is the only use in that building. The stairway(s) appear to comply with the requirements of this Clause. Please refer to Clause D2D12 and Clause D2D14 for further details.



Part D2 – Provision for Escape			
Clause	Description	Status	Comments
D2D5	Exit travel distances	PS	The entrance doorway of any sole-occupancy unit must be not more than 6 m (increased to 12 m if the building is provided with a required automatic fire sprinkler system in accordance with Specification 18) from an exit or from a point from which travel in different directions to 2 exits is available or 20 m from a single exit serving the storey at the level of egress to a road or open space. No point on the floor of a room which is not in a sole-occupancy unit must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available. No point on a floor of a Class 9 building must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m. Compliance can be achieved by a fire engineering performance solution undertaken prior to the issue of the Construction Certificate.

Basement 4 Carpark

The following travel distances from the basement carpark exceed 20m to a point of choice and/or 40m to a single exit when two (2) exits are provided.



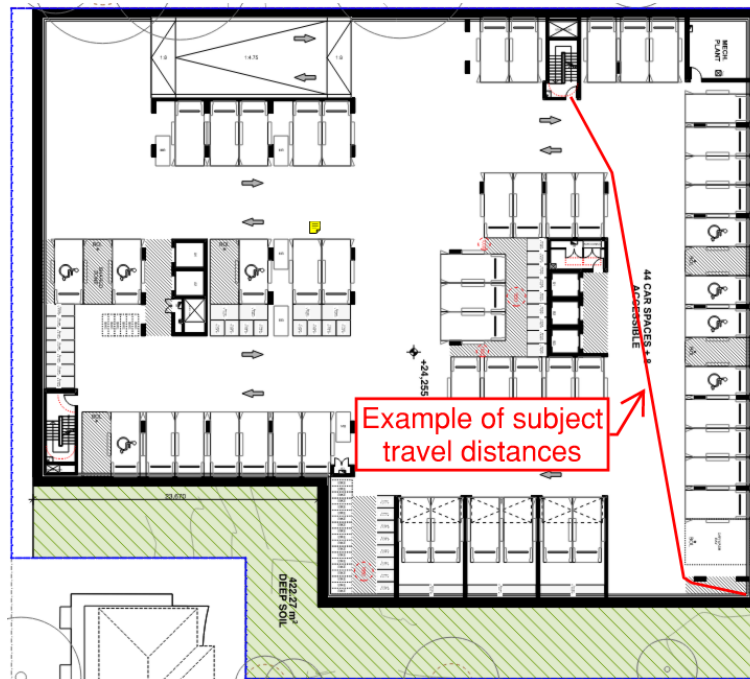


Part D2 – Provision for Escape

Clause	Description	Status	Comments
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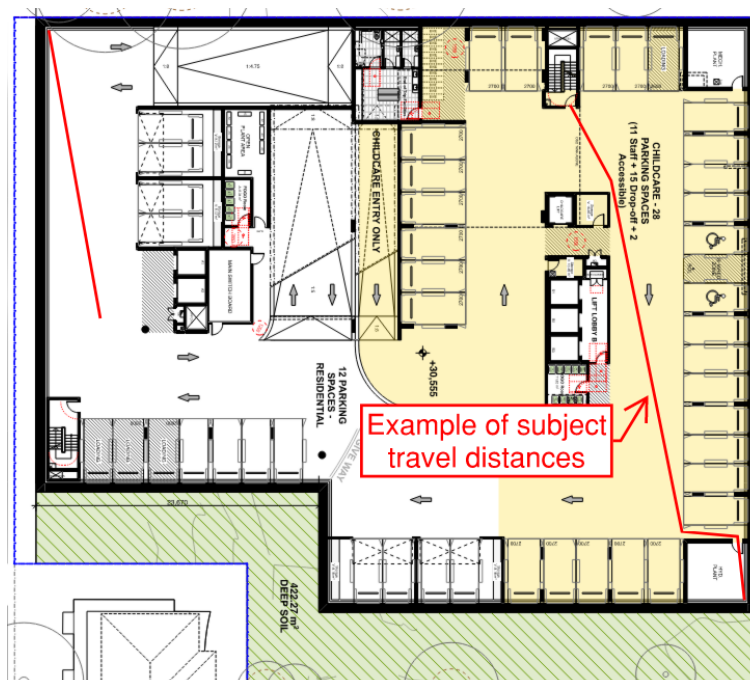
Basement 3 & 2 Carpark

The following travel distances from the basement carpark exceed 40m to a single exit when two (2) exits are provided.



Basement 1 Carpark

The following travel distances from the basement carpark exceed 20m to a point of choice and/or 40m to a single exit when two (2) exits are provided.



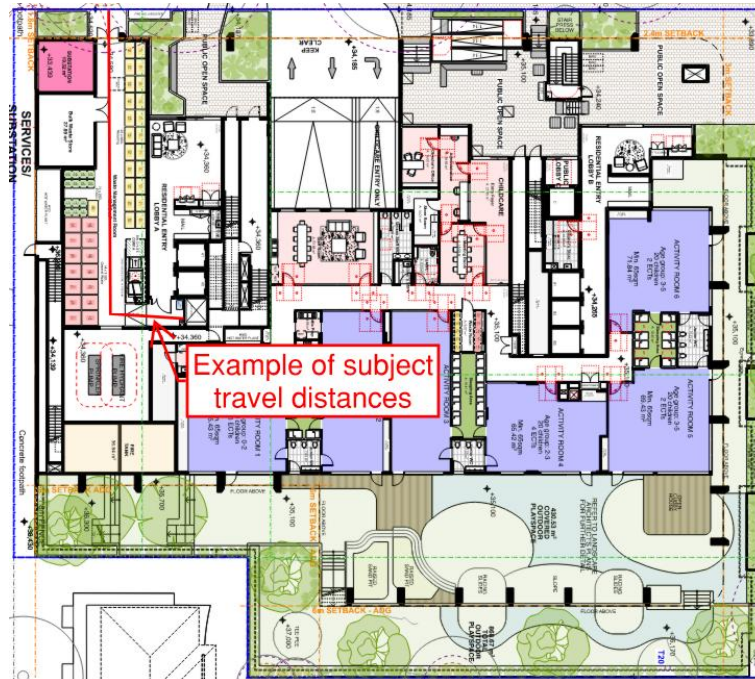


Part D2 – Provision for Escape

Clause	Description	Status	Comments
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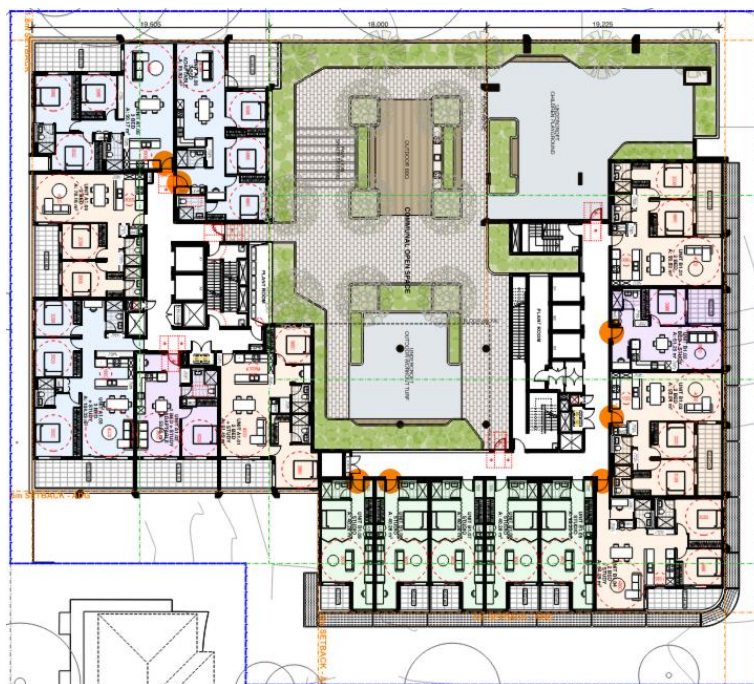
Ground Floor

The following travel distances from the ground floor exceeds 20m to a single exit to a road or open space.



First Floor

The following SOU's retain distances of greater than 20m to a single exit serving the storey at the level of egress to a road or open space and include:



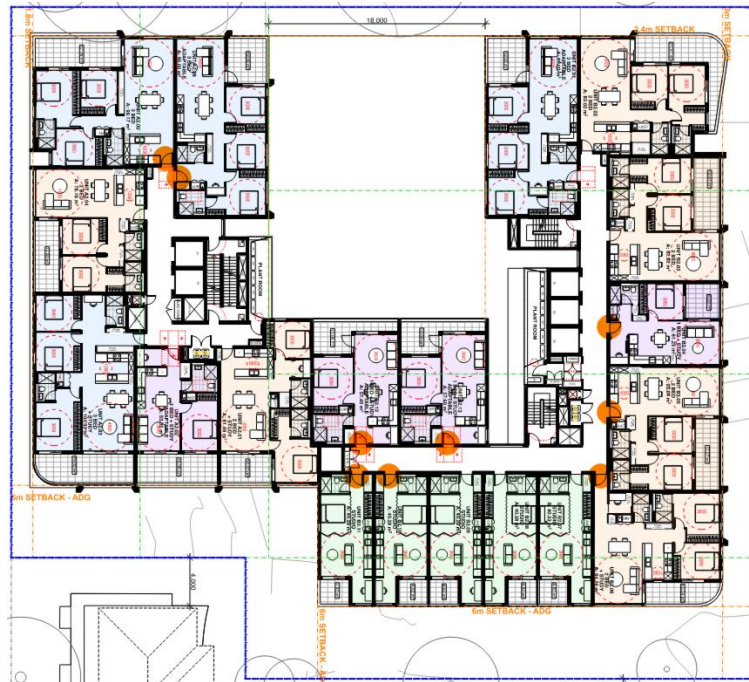


Part D2 – Provision for Escape

Clause	Description	Status	Comments
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Second & Third Floors

The following SOU's retain distances of greater than 20m to a single exit serving the storey at the level of egress to a road or open space and include:

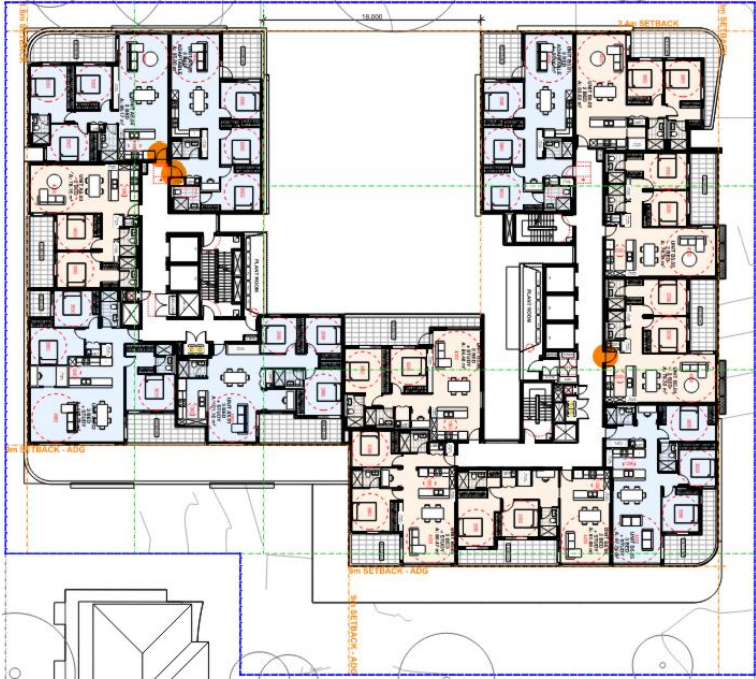
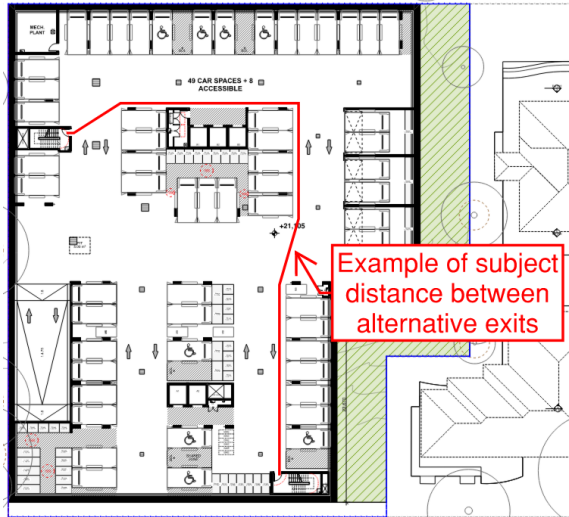


Fourth Floor

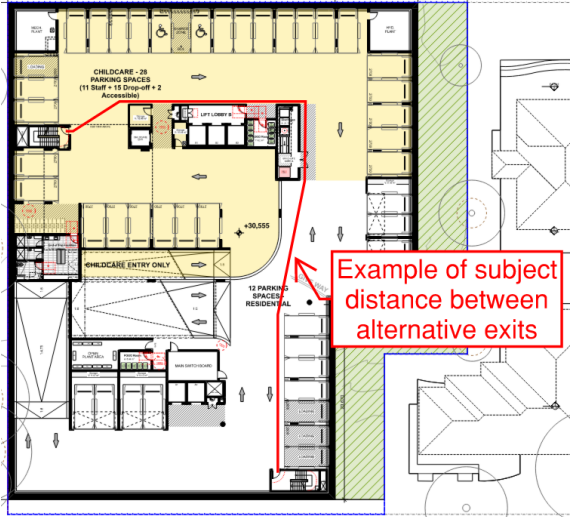
The following SOU's retain distances of greater than 20m to a single exit serving the storey at the level of egress to a road or open space and include:



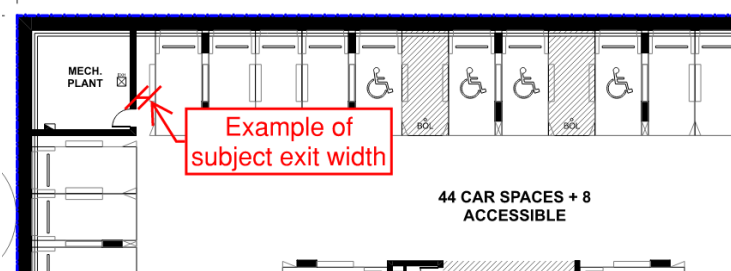


Part D2 – Provision for Escape			
Clause	Description	Status	Comments
Fifth & Seventh Floors			
The following SOU's retain distances of greater than 20m to a single exit serving the storey at the level of egress to a road or open space and include:			
			
D2D6	Distances between alternative exits	PS	Storeys requiring two or more exits have exits distributed within 45m for the Class 2 and 60m for the Class 7a & 9b parts from one another and are also further than 9m apart. The paths of travel leading to alternative exits must not converge within 6m. Basement Levels The basement carpark levels retain a distance of greater than 60m between alternative exits. 

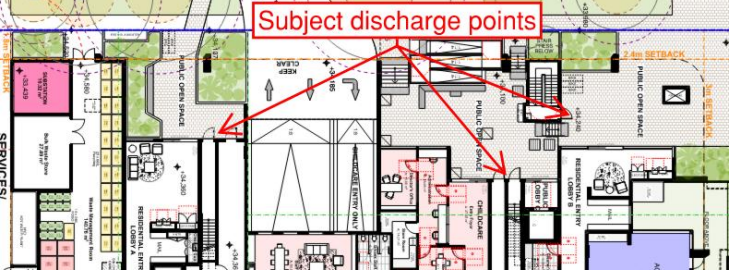
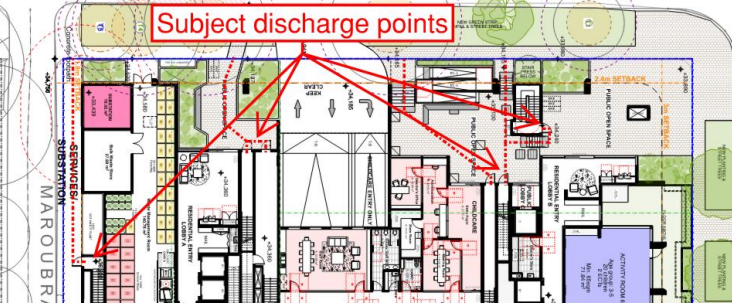


Part D2 – Provision for Escape			
Clause	Description	Status	Comments
			 Compliance can be achieved by a fire engineering performance solution undertaken prior to the issue of the Construction Certificate.
D2D7	Height of exits, paths of travel to exits and doorways	CRA	In a required exit or path of travel, the unobstructed height throughout must be not less than 2m, except the unobstructed height of any doorway must be reduced to not less than 1980mm. Height of exits, paths of travel and doorways in the building appear to comply with the requirements of this clause. Design verification to be provided by the designer prior to the issue of the Construction Certificate.
D2D8	Width of exits and paths of travel to exits	PS	The unobstructed width of each exit or path of travel to an exit, except for ladders and doorways, must not be less than 1m. Note: all service and common areas such as the residential bin storage room are required to be provided with a clear exit width of 1m. Non-Fire Isolated Stairways and Ramps All non- fire isolated stairways and ramps serving the building must include double handrails and tactile indicators in accordance with AS 1428.1-2021. Please note: Internal non-fire isolated stairs must incorporate double handrail as required under D4, stairs are to be >1.2m wide to cater for this requirement. The fire isolated exit stairways must incorporate a single handrail as required by the BCA, the stairs are to be >1.1m wide to cater for the requirement.

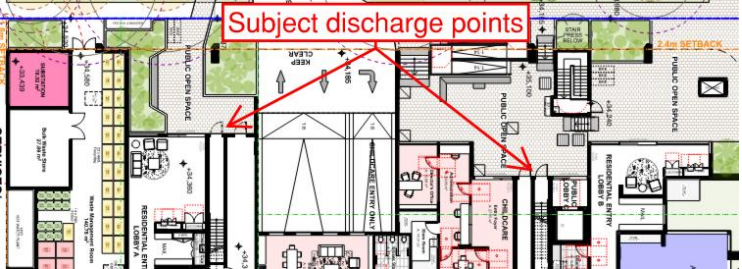


Part D2 – Provision for Escape			
Clause	Description	Status	Comments
			Basement Carpark Required stairways, corridors and accessways are to retain an unobstructed width of not less than 1m. The path of travel to and from the path of travel within the carpark levels provide less than 1m clear exit width.  Compliance can be achieved via undertaking a fire engineering performance solution prior to the issue of the Construction Certificate.
D2D9	Width of doorways in exits or paths of travel to exits	CRA	The unobstructed width of a doorway in a required exit or path of travel to exit must not be less than 750mm. Width of doorways in paths of travel in the building appear to comply with the requirements of this clause. Design verification to be provided by the designer prior to the issue of the Construction Certificate.
D2D10	Exit width not to diminish in direction of travel	CRA	The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space. Design verification to be provided by the designer prior to the issue of the Construction Certificate.
D2D11	Determination and measurement of exits and paths of travel to exits	CRA	The unobstructed width of a stairway or ramp in a required exit or path of travel to an exit must be measured clear of all obstructions such as handrails, projecting parts of balustrades or other barriers and the like. The unobstructed height of a stairway or ramp in a required exit or path of travel to an exit must extend without interruption, except for ceiling cornices, to a height not less than 2m vertically above a line along the nosing of the treads or the floor surface of the ramp or landing. Design verification to be provided by the designer prior to the issue of the Construction Certificate.
D2D12	Travel via fire-isolated exits	PS	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, either: • Direct: to a road or open space; or • Open Area: to a point 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 from

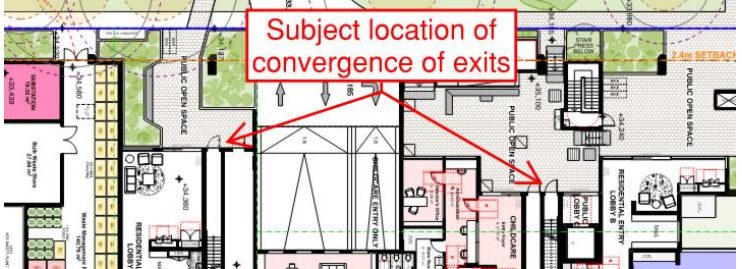


Part D2 – Provision for Escape			
Clause	Description	Status	Comments
			which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or • Covered Area: into a covered area that adjoins a road or open space, is open for at least 1/3 of its perimeter, has an unobstructed clear height throughout of not less than 3 m (inc. perimeter openings), and provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. Open Area Discharge Points The current design of numerous stairways serving the residential units discharges in an open area within the confines of the building not 2/3 of the perimeter open and/or is further than 20m to a road or open space.  External Wall Openings in Path of Travel The path of travel discharging from the stairways passes within 6m of external wall openings which are not protected in accordance with Clause C4D5 of the BCA.  Convergence of Exits The subject fire isolated stairways converge into one (1) passageway on the Ground Floor Level and do not appear to be provided with independent egress to an open space.



Part D2 – Provision for Escape			
Clause	Description	Status	Comments
			 Compliance can be achieved via undertaking a fire engineering performance solution prior to the issue of the Construction Certificate.
D2D13	External stairways or ramps in lieu of fire-isolated exits	CRA	An external stairway or ramp may serve as a required exit in lieu of a fire-isolated exit serving a storey below an effective height of 25 m, if the stairway or ramp is: • Non-combustible throughout; and • Protected in accordance with D1.8(c) if it is within 6 m of, and exposed to any part of the external wall of the building it serves. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
D2D14	Travel by Non-fire-isolated Stairways or ramps	CRA	A required non-fire-isolated stairway or ramp must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. In a Class 2 building, the distance between the doorway of a sole-occupancy unit and a road or open space via a required non-fire-isolated stairway or ramp must not exceed 60m. A required non-fire-isolated stairway or ramp serving the residential parts of the building must discharge at a point not more than 15 m from a road or open space or from a fire-isolated passageway leading to a road or open space. A required non-fire-isolated stairway or ramp serving the carpark must discharge at a point not more than 20 m from a road or open space or from a fire-isolated passageway leading to a road or open space. Details verifying compliance must be provided on plans prior to the issue of a Construction Certificate.
D2D15	Discharge from exits	PS	Suitable barriers such as bollards are to be provided to prevent the blockage of exits by vehicles, etc. All external ramps that are used as a path from an exit to a road must have a gradient not steeper than 1:8 at any part. Convergence of Exits The subject paths of travel from the discharge points converge on the ground floor.



Part D2 – Provision for Escape			
Clause	Description	Status	Comments
			 Compliance can be achieved via undertaking a fire engineering performance solution prior to the issue of the Construction Certificate.
D2D16	Horizontal exits	CRA	(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. (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) 0.2 m² per patient/resident in a Class 9a health-care building or Class 9c aged care building; and (b) 0.5 m² per person in any other case. (5) Where a fire compartment is provided with only two exits, and one of those exits is a horizontal exit, the clear area required by (4) is to be of a size that accommodates all the occupants from the fire compartment being evacuated. (6) in a Class 9b early childhood centre, the clear area required by (4) must accommodate all occupants of the early childhood centre. (7) The clear area required by (4) must be connected to the horizontal exit by an unobstructed path that has at least the dimensions required for the horizontal exit and may include the area of the unobstructed path. (8) Each fire compartment required by C3D6(2) must be served by not less than 2 horizontal exits, each located not less than 9m from- (a) at least one other horizontal exit; and (b) an exit other than a horizontal exit. Design verification to be provided by the designer prior to the issue of the Construction Certificate.
D2D17	Non-required stairways, ramps or escalators	Noted	



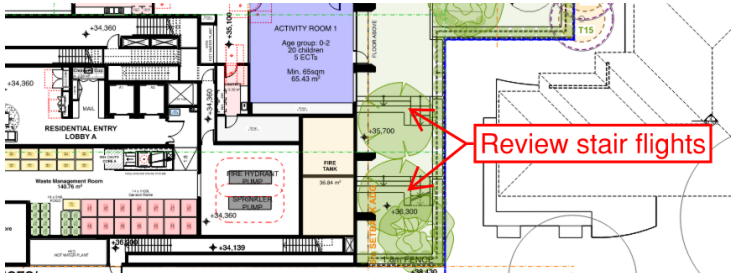
Part D2 – Provision for Escape			
Clause	Description	Status	Comments
D2D18	Number of persons accommodated	Noted	
D2D19	Measurement of distances	Noted	
D2D20	Method of measurement	Noted	
D2D21	Plant rooms, lift machine rooms and electricity network substations: Concession	N / A	
D2D22	Access to lift pits	CRA	Final details as to the lift shafts and pits are required.
DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES			(a) where the pit depth is not more than 3 m, be through the lowest landing doors; or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D2D7 to D2D11, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D3D26, doors fitted to the doorway must be— (A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high: “DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES”
D2D23	Egress from primary schools	N / A	The subject building does not contain any Class 9b primary school parts.



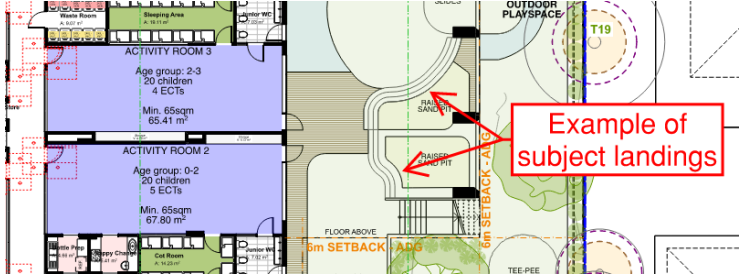
Part D3 – Construction of Exits			
Clause	Description	Status	Comments
D3D1	Deemed-to-Satisfy Provisions	-	-
D3D2	Application of Part	Noted	
D3D3	Fire-isolated stairways and ramps	CRA	Stairway or ramps within the fire isolated shaft must be constructed on non-combustible materials and if there is a structural failure within the building, it would not cause structural damage to, or impair the fire resistance of the shaft. Engineering details are to be submitted with the Construction Certificate Documentation.
D3D4	Non-fire-isolated stairways and ramps	CRA	Required stairs that are not required to be within a fire-resting shaft are to be constructed of concrete, steel (6mm), or timber (44mm) of specified minimum dimensions. Engineering details are to be submitted with the Construction Certificate Documentation.
D3D5	Separation of rising and descending stair flights	Noted	If a stairway serving as an exit is required to be fire-isolated, there must be no direct connection between a flight rising from a storey below the lowest level of access to a road or open space and a flight descending from a storey above that level. Furthermore, any construction that separates or is common to the rising and descending flights must be non-combustible; and smoke proof in accordance with Clause S11C2 of Specification 11.
D3D6	Open access ramps and balconies	N / A	
D3D7	Smoke lobbies	N / A	
D3D8	Installations in exits and paths of travel	CRA	Electrical boards and the like are to be located within and enclosed by non-combustible construction or have a fire-protective covering with the doorway suitably sealed against smoke spreading from the enclosure. Design verification is to be provided prior to the issue of the Construction Certificate.
D3D9	Enclosure of space under stairs and ramps	CRA	The space below required fire-isolated stairs must not be enclosed to form a cupboard or similar enclosed space. The space below required non-fire-isolated stairs must not be enclosed unless the enclosing walls have an FRL of not less than 60/60/60 and any doorway to the enclosed space is fitted with a self-closing –/60/30 fire door. There is to be no form of cupboard or similar enclosed space within any of the required stairways. Design verification is to be provided prior to the issue of the Construction Certificate.



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
D3D10	Width of required stairways and ramps	CRA	Stairway width is to be measured clear of obstructions such as handrails, projecting parts of balustrades or other barriers and the like and extend to a height of not less than 2m.
D3D11	Pedestrian ramps	CRA	Ramps serving as a required exit must not have a gradient steeper than 1:8. If the ramp is required for disabled access under Part D4 it must comply with AS1428.1. The surface of the ramp must have a non-slip finish. Note: The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D3D15 of the BCA when tested in accordance with AS 4586-2013.
D3D12	Fire-isolated passageways	CRA	(1) The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of— (a) if the passageway discharges from a fire-isolated stairway or ramp — not less than that required for the stairway or ramp shaft; or (b) in any other case — not less than 60/60/60. (2) Notwithstanding (1)(b), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of— (a) a non-combustible roof covering; or (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. Final details are to be submitted with the Construction Certificate Documentation.
D3D13	Roof as open space	PS	If an exit discharges to a roof of a building, the roof must have an FRL of not less than 120/120/120 and not have any rooflights or other openings within 3 m of the path of travel of persons using the exit to reach a road or open space. Ground Floor Open Space The subject Ground Floor rooftop area appears to be required to act as an open space as required by this clause.  Compliance can be achieved via undertaking a fire engineering performance solution prior to issue of the Construction Certificate.

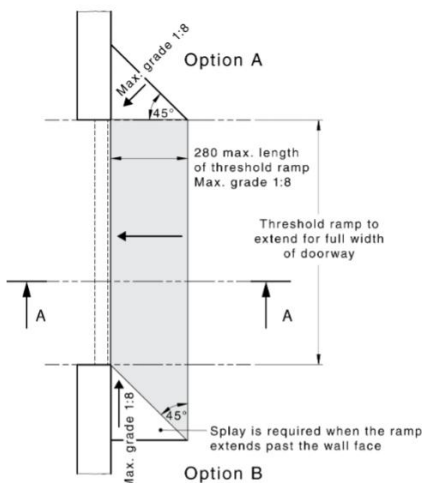
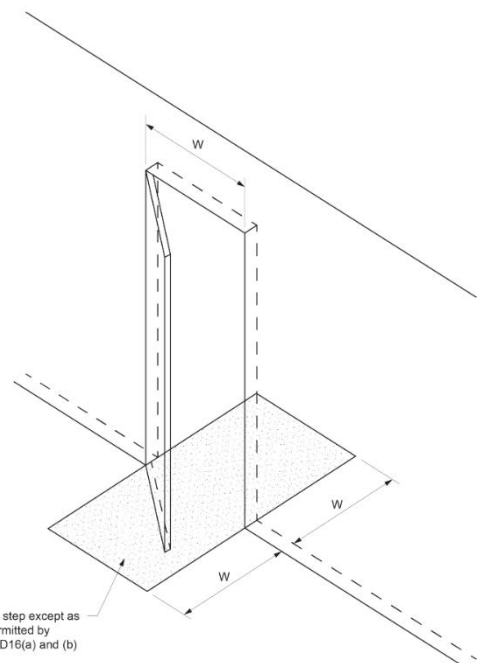
Part D3 – Construction of Exits																		
Clause	Description	Status	Comments															
D3D14	Goings and risers	CRA	Stairs are to have risers measuring between 115-190mm and goings between 250-355. Goings and Risers are to satisfy the equation of $2R+G=700(\text{max}) \text{ and } 550(\text{min}).$ Goings and risers are to be consistent throughout in one flight. Any gap between risers must not permit a 125mm sphere to pass through it.  Ensure all stairways throughout the building do not contain less than 2 or more than 18 risers All treads and surfaces with a slip resistant classification are to be fitted with non-slip finish or non-skid strips compliant with the requirements of Table D3D15 when tested in accordance with AS4586-2013 and 30% colour contrasting nosings. Compliance can be achieved via slight redesign prior to the issue of the Construction Certificate. Final details are to be submitted with the Construction Certificate Documentation.															
D3D15	Landings	CRA	Landings must comply with the requirements of Clause D3D15 of the BCA. Landings must be not less than 750mm long and have a non-slip finish throughout or an adequate non-skid strip near the edge of the landing where it leads to a flight below and 30% colour contrasting nosings. Strips at the edge of the landing with slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013, where the edge leads to a flight below. Table D3D15 Slip-resistance classification <table><tr><th>Application</th><th>Dry surface conditions</th><th>Wet surface conditions</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 <u>landing</u> surface</td><td>P3 or R10</td><td>P4 or R11</td></tr><tr><td>Nosing or <u>landing</u> edge strip</td><td>P3</td><td>P4</td></tr></table>	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	Tread or <u>landing</u> surface	P3 or R10	P4 or R11	Nosing or <u>landing</u> edge strip	P3	P4
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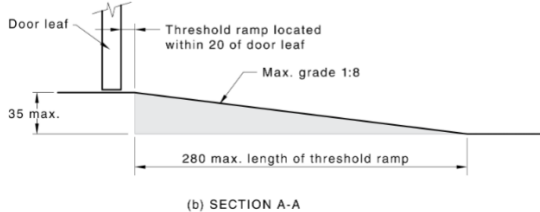
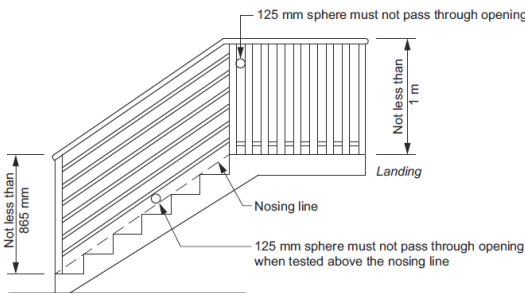
Part D3 – Construction of Exits			
Clause	Description	Status	Comments
			Stairway Landings The ground floor stairway does not appear to be provided with a stairway landing of 750mm past the riser on a hard-standing surface not steeper than 1 in 50.  Compliance can be achieved via slight redesign prior to the issue of the Construction Certificate.
D3D16	Thresholds	CRA	A threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless the door opens to a road or open space, external stair landing or external balcony and the doorsill is not more than 190mm above the finished surface of the ground balcony or the like to which the door opens. Final details are to be submitted with the Construction Certificate Documentation.

Note: If the door is in a path of travel required to be accessible under D4, a step is not allowed.

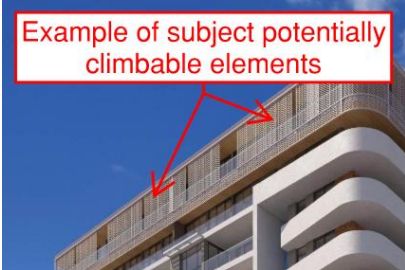
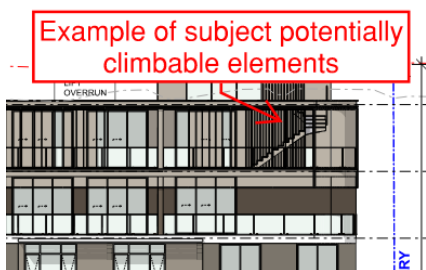
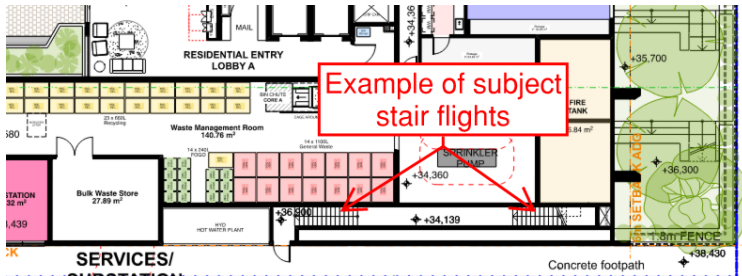
Note: This applies to all Fire Isolated Exit Doors also including the last exit door to open space.

Dimensions in millimetres  (a) PLAN VIEW (not to scale)	 No step except as permitted by D3D16(a) and (b)
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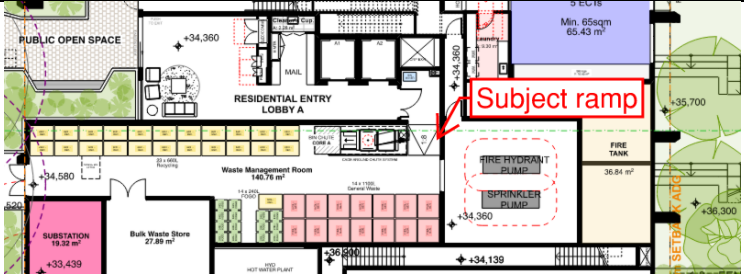
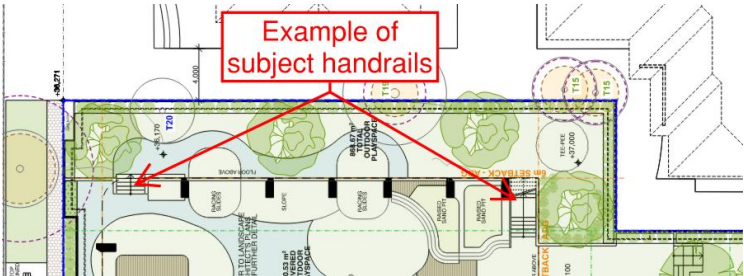
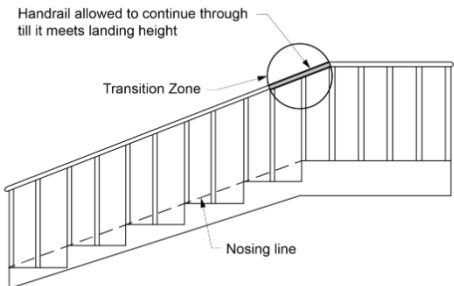
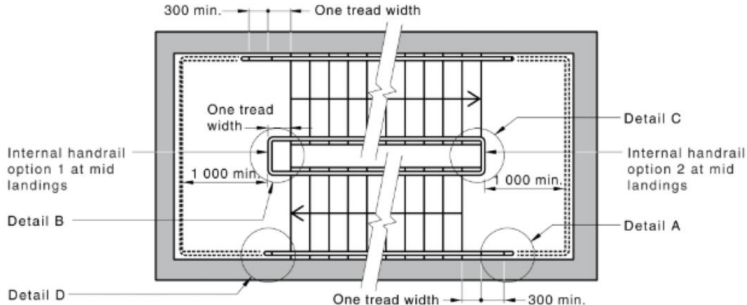


Part D3 – Construction of Exits			
Clause	Description	Status	Comments
	 (b) SECTION A-A		
D3D17	Barriers to prevent falls	Noted	Balustrades complying with Deemed-to-Satisfy provisions of the BCA are to be provided to where the level of the surface below is 1m or more. Balustrades must also be provided where the level of the surface beneath is more than 4m where it is possible for a person to fall through an openable window. Final details are to be submitted with the Construction Certificate Documentation.
D3D18	Height of barriers	CRA	Where required by D3D17, the height of a barrier must be not less than: - For stairways or ramps with a gradient of 1:20 or steeper: 865mm - For landings where the barrier is provided along the inside edge of the landing and does not exceed 500mm in length: 865mm - In front of fixed seating on a mezzanine or balcony in an auditorium in a Class 9b building: 700mm - For all other locations: 1m Final details are to be submitted with the Construction Certificate Documentation.
D3D19	Openings in barriers	CRA	Openings in barriers are required to comply with Clause D3D19.
			Any opening in the balustrade must not permit a 125mm sphere to pass through the balusters. Fire isolated stairways, ramps or other areas used primarily for emergency purposes must not permit a 300mm sphere to pass through. Where rails are used, a 150mm sphere must not be able to pass through the opening, and the opening between rails must not be more than 460mm. This concession does not apply to Fire isolated stairways or ramps serving Class 9b early childhood centres. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D3D20	Barrier climbability	CRA	Balustrades must be constructed to comply with Clause D3D20. Where the level of the surface below is 4m or more, a balustrade or other barrier must not facilitate climbing of horizontal elements between 150mm and 760mm above the floor.



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
			Potentially climbable elements close to balustrades must be relocated or appropriately protected.  Example of subject potentially climbable elements  Example of subject potentially climbable elements Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D3D21	Wire barriers	CRA	Wire balustrades must be constructed to comply with Clause D3D17–D3D21 and Tables D3D21a, D3D21b and D3D21c. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D3D22	Handrails	CRA	Handrails are to be provided to at least one side of stair flights within fire isolated stairs and both side in any other case (See D3) and located not less than 865mm above the nosings of stair treads and the floor surfaces of landings. All internal stairways within the residential SOU's are to include single handrails as required by this Clause. Fire Isolated Stairways The subject fire isolated stairways serving the basement levels require a single handrail along one side of the stairway in the path of travel.  Example of subject stair flights Ground Floor Bin Room Ramp The subject ramp within the Ground Floor bin room requires a single handrail along one side of the stairway in the path of travel.

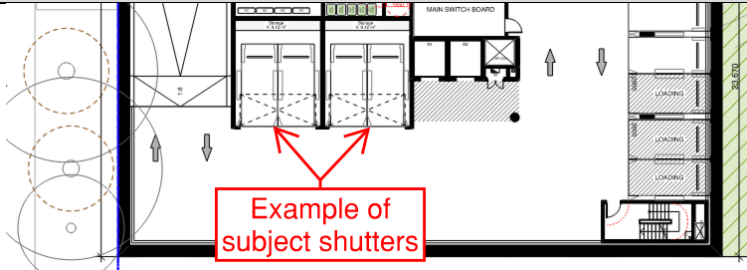
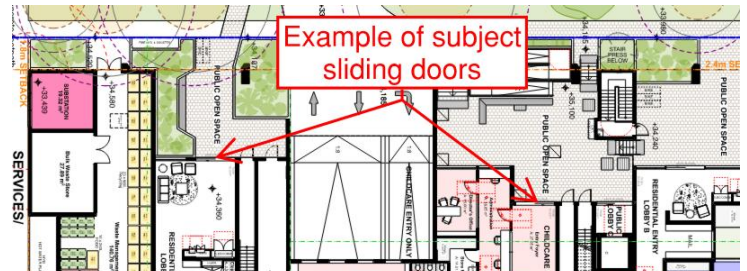


Part D3 – Construction of Exits			
Clause	Description	Status	Comments
			 Childcare Centre Handrails A Class 9b primary school or early childhood centre is required to be provided with an additional handrail for children as required by this clause.  Internal Non-Fire Isolated Stairways The internal non-fire isolated stairways within numerous residential units do not appear to be provided with a single handrail.  Design verification is to be provided prior to the issue of the Construction Certificate.
 			

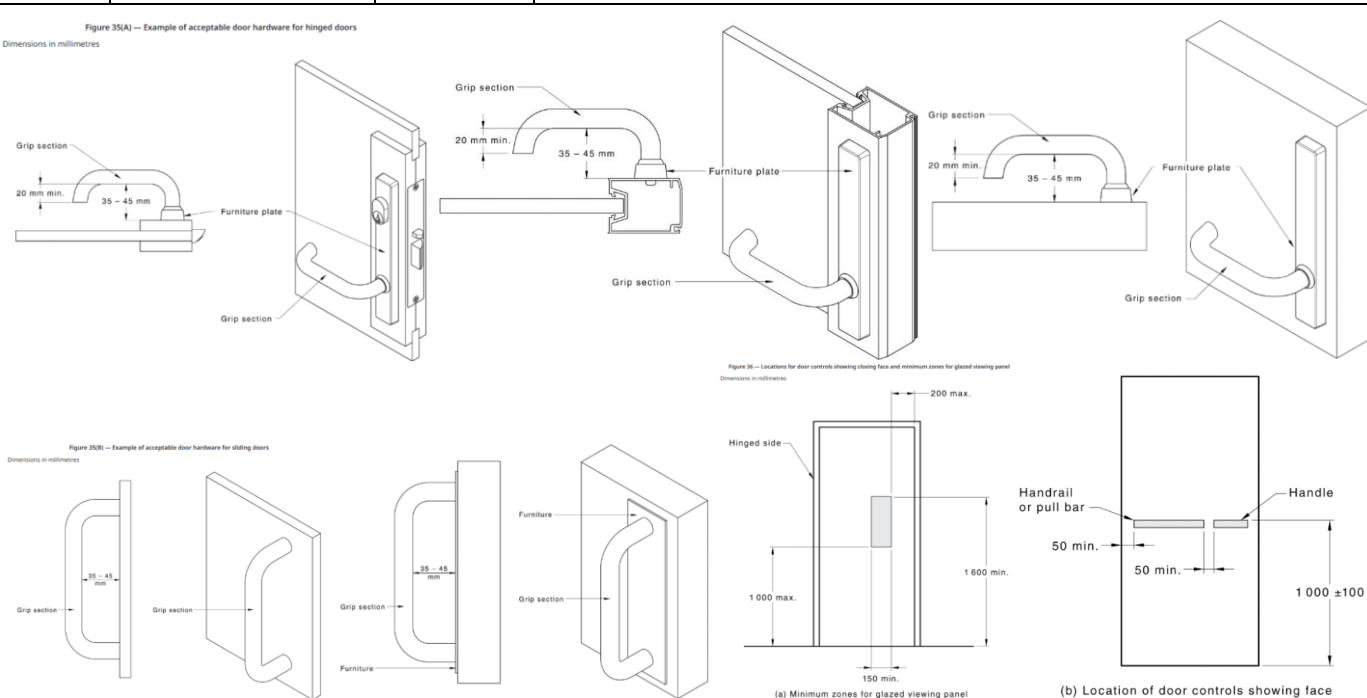


Part D3 – Construction of Exits			
Clause	Description	Status	Comments
	Note: Fire-isolated stairways to not require 300mm handrail extensions pictured above but require a one tread width extension at the base on the stairway to ensure the handrail travels through all landings as required. One tread width space at landings are required for exit paths from storeys required to be accessible, like entry level and those served by lift or ramp.		
D3D23	Fixed platforms walkways, stairways and ladders	CRA	Fixed platforms, walkways, stairways, ladders, landings, handrails, balustrades and any tread or riser in a plant room, lift motor room or the like is to comply with AS1657.
D3D24	Doorways and doors	PS	A doorway serving as a required exit or forming part of a required exit: • must not be fitted with a revolving door; and • must not be fitted with a roller shutter or tilt-up door unless— ○ it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m²; and ○ the doorway is the only required exit from the building or part; and • it is held in the open position while the building or part is lawfully occupied; and • must not be fitted with a sliding door unless— ○ it leads directly to a road or open space; and ○ the door is able to be opened manually under a force of not more than 110 N; and • if fitted with a door which is power-operated— ○ it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and ○ if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. Basement Carpark The subject shutters throughout the carpark must comply with Clauses D3D24 and D3D26 of the BCA.



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
			 Sliding Doors as Required Exits The subject sliding doors serving as required exits from the Ground floor must comply with Clauses D3D24 and D3D26 of the BCA.  Compliance can be achieved via undertaking a fire engineering performance solution prior to issue of the Construction Certificate.
D3D25	Swinging doors	CRA	A swinging door in a required exit or forming part of a required exit must not encroach more than 500 mm on the required width of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit. Furthermore, such a swinging door must swing in the direction of egress, unless it serves a sanitary compartment, airlock or is the only required exit serving a building part with floor area not more than 200m² and is fitting with hold open device. Design verification to be provided prior to the issue of the Construction Certificate.
D3D26	Operation of latch	CRA	The latch of a door in a required exit, forming part of a required exit or in the path of travel is to be readily openable without a key from the side of that faces a person seeking egress. It is to have a single downward action or pushing action and to be located between 900mm and 1100mm from the floor. Where the latch operation referred to above is not located on the door leaf itself, manual controls to power-operated doors must be at least 25mm wide, proud of the surrounding surface located not less than 500mm from an internal corner, and: • for a hinged door located between 1m and 2m from the door leaf in any position; or • for a sliding door located within 2m of the doorway and clear of a surface mounted door in the open position.



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
			Design verification to be provided prior to the issue of the Construction Certificate.
Figure 35(A) – Example of acceptable door hardware for hinged doors Dimensions in millimetres  Figure 35(B) – Example of acceptable door hardware for sliding doors Dimensions in millimetres Figure 36 – Locations for door controls showing viewing face and minimum zones for glazed viewing panel Dimensions in millimetres (a) Minimum zones for glazed viewing panel (b) Location of door controls showing face			
D3D27	Re-entry from fire-isolated exits	CRA	As this building contains an early childhood centre, the doors of the fire isolated stairways must not be locked from the inside if serving the early childhood centre. The above requirement does not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm In addition, as this building exceeds an effective height of more than 25m, the doors of the fire isolated stairways must not be locked from the inside if serving any storey above an effective height of 25m. The above requirement does not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm and: (i) On at least every fourth storey, the doors are not above to be locked and a sign is fixed on such doors stating that re-entry is available; or (ii) 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 to adjacent to such doors explaining its purpose and method of operation. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
D3D28	Signs on doors	Noted	Fire Door and Smoke Door signage is required to be provided to all doors giving access to and egress from the fire isolated stairways. NOTE: Braille Exit Level Signs are to be Installed at Each Exit Also. D4D7



Part D3 – Construction of Exits			
Clause	Description	Status	Comments
	FIRE SAFETY DOOR — DO NOT OBSTRUCT FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR — DO NOT OBSTRUCT		Any Fire Door require the standard signage, “Fire Safety Door, Do not Obstruct, Do Not Keep Open etc ” along with the EP& A Notice; – A Fire Door on an auto-closing or fire trip is to incorporate the following wording: “FIRE SAFETY DOOR—DO NOT OBSTRUCT” – A Self-Closing Fire Doors are to incorporate the following wording: “FIRE SAFETY DOOR —DO NOT OBSTRUCT —DO NOT KEEP OPEN” – For the last door discharging from a fire isolated exit, (Door opening on to open space/outside) – “FIRE SAFETY DOOR—DO NOT OBSTRUCT”.
	OFFENCE RELATING TO FIRE EXITS It is an offence under the <i>Environmental Planning and Assessment Act 1979</i> to: • place anything in or near this fire exit that may obstruct persons moving to and from the exit • interfere with, obstruct or impede the operation of any fire doors • remove, damage or otherwise interfere with this notice		Along with the required BCA signage, the EPA & A Regulations require a warning notice to be displayed in a conspicuous position adjacent to a doorway providing access to, but not within, that stairway, passageway or ramp: – OFFENCE RELATING TO FIRE EXITS It is an offence under the Environmental Planning and Assessment Act 1979: (a) to place anything in or near this fire exit that may obstruct persons moving to and from the exit, or (b) to interfere with or obstruct the operation of any fire doors, or (c) to remove, damage or otherwise interfere with this notice.
All fire doors and frames are to be tagged in accordance with AS 1905.1-2015 and a complete door schedule is to be provided at the Occupation Certificate Stage.		FIRE DOORFRAME (DOOR LEAF)—TO AS 1905.1:XXXX FRL -/60/30 MANUFACTURED BY (BUSINESS NAME) DOORSET CERTIFIER—(BUSINESS/INDIVIDUAL NAME) DOOR NUMBER YEAR OF MANUFACTURE	
Clearances under and the side of fire doors are to be in accordance with AS 1905.1-2015			
(a) With a combustible floor covering		(b) Without a combustible floor covering	



Part D3 – Construction of Exits																																																																																																																																																																																																																																						
Clause	Description	Status	Comments																																																																																																																																																																																																																																			
	(Company Name) FIRE DOOR CERTIFICATE Certificate Number 12345 Project Name: Building Owner/ Representative: Building Address: The member company nominated certifies the following: - The fire doorsets installed in this building comply with AS 1905.1:XXXX. - The fire doorsets are labelled as required by the appropriate regulatory authorities in accordance with Australian Standard AS 1905.1:XXXX. - A manual dealing with the fire-resistant doorsets installed in this building has been completed in accordance with AS 1905.1:XXXX. - A paper-based copy of the manual has been provided to the building owner/representative. Certified by: Member Company Name of Certifier: Signature: Date:		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7">Fire Resistant Doorset—Schedule of Evidence</th> </tr> </thead> <tbody> <tr> <td colspan="2">Project name:</td> <td colspan="2"></td> <td colspan="2">Date of installation:</td> <td></td> </tr> <tr> <td colspan="2">Building address:</td> <td colspan="2"></td> <td colspan="2">Date of certification:</td> <td></td> </tr> <tr> <td colspan="2">Building owner/ representative:</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Door identification number</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Door location</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Door leaf type and manufacturer</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Door facing and edging material</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Door dimensions</td> <td>Width</td> <td></td> <td>Height</td> <td></td> <td>Thickness</td> </tr> <tr> <td colspan="2">Frame type and manufacturer</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Frame fixing and backfill material</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Wall type and FRL</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Doorset FRL</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Doorset hardware</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td>Lock</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td>Furniture</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td>Fixtures</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td>Fittings</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td>Vision panel</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td>XXXX</td> <td>Make</td> <td>Model</td> <td>Type</td> <td>Materials on leaf</td> <td>Materials on frame</td> <td>FRL</td> </tr> <tr> <td colspan="2">Test report references</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Assessment report references</td> <td colspan="2"></td> <td colspan="2"></td> <td></td> </tr> <tr> <td colspan="2">Date of final inspection</td> <td colspan="2">Certificate No.</td> <td colspan="2">Inspecting officer</td> <td>Thickness</td> </tr> <tr> <td colspan="2">Date of Certification</td> <td colspan="2">Doorset Certifier's Name and (if applicable) Licence No.</td> <td colspan="2">Doorset Certifier's Business Name</td> <td></td> </tr> <tr> <td colspan="2">Operating and maintenance information</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Doorframe</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Doorset</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Lock</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Furniture</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Fixtures</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Fittings</td> <td colspan="5"></td> </tr> <tr> <td colspan="2">Vision panel</td> <td colspan="5"></td> </tr> </tbody> </table>				Fire Resistant Doorset—Schedule of Evidence							Project name:				Date of installation:			Building address:				Date of certification:			Building owner/ representative:							Door identification number							Door location							Door leaf type and manufacturer							Door facing and edging material							Door dimensions		Width		Height		Thickness	Frame type and manufacturer							Frame fixing and backfill material							Wall type and FRL							Doorset FRL							Doorset hardware							Lock	Make	Model	Type	Materials on leaf	Materials on frame	FRL	Furniture	Make	Model	Type	Materials on leaf	Materials on frame	FRL	Fixtures	Make	Model	Type	Materials on leaf	Materials on frame	FRL	Fittings	Make	Model	Type	Materials on leaf	Materials on frame	FRL	Vision panel	Make	Model	Type	Materials on leaf	Materials on frame	FRL	XXXX	Make	Model	Type	Materials on leaf	Materials on frame	FRL	Test report references							Assessment report references							Date of final inspection		Certificate No.		Inspecting officer		Thickness	Date of Certification		Doorset Certifier's Name and (if applicable) Licence No.		Doorset Certifier's Business Name			Operating and maintenance information							Doorframe							Doorset							Lock							Furniture							Fixtures							Fittings							Vision panel						
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Part D3 – Construction of Exits			
Clause	Description	Status	Comments
D3D29	Protection of openable windows	CRA	All window openings throughout the development must be provided with protection, if the floor below the window is 2m or more above the surface beneath in a Class 2 building and Class 9b childcare centre. Where the lowest level of the window opening is less than 1.7m above the floor, the operable portion of the window must be protected with a device capable of restricting the window opening or a screen with secure fittings. A device or screen must: • Not permit a 125mm sphere to pass through the window opening or screen; • Resist an outward horizontal action of 250N against the window restraining device or screen protecting the opening; and • Have a child restraint release mechanism if the screen or device is able to be removed, unlocked or overridden. A barrier with a height not less than 865mm above the floor is required to an openable window in addition to window protection, when a child resistant release mechanism is required and where the floor below the window is 4m or more above the surface beneath if the window is not provided with protection. The barrier must not permit a 125mm sphere to pass through it and must not contain any horizontal or near horizontal elements between 150mm and 760mm above the floor that facilitate climbing. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
D3D30	Timber stairways: Concession	N / A	
NSW D3D31	Doors of travel in an entertainment venue	N / A	

Part D4 – Access for People with Disabilities	
Refer to Access Report by Building Innovations Australia for further details.	



SECTION E – SERVICES AND EQUIPMENT

Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
E1D1	Deemed-to-Satisfy Provisions	-	-
E1D2	Fire Hydrants	CRA	Fire Hydrant Coverage is required throughout the whole building in accordance with AS 2419.1. Location of fire hydrant booster system appears to be within 10m of the building surrounded by a fire rated construction extending less than 2m either side of the booster outlets as required by AS2419.1. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate. <i>Please note: If variations from AS2419.1 are required, a Clause 188 approval may be required to be submitted to the NSW Fire Brigade for approval, please allocate time for this process if required.</i>

AS2419.1:2021

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 —

- not less than 10 m from the building or fire compartment it is protecting, unless the fire hydrant is protected in accordance with Clause 3.5.5;
- not less than 10 m from any high voltage 1main electrical distribution equipment such as transformers and distribution boards;
- 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;
- not less than 10 m from a stored quantity of dangerous goods (e.g. LPG, petroleum, propane);
- not less than 10 m from external combustible storage (e.g. palletized combustible storage items); and
- not less than 3 m from the vent terminal of any gas assembly or gas measurement system.

NOTE For gas assembly and gas measurement systems, refer to AS/NZS 5601.1.

(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.

3.5.5 Protection of fire hydrants

3.5.5.1 Sprinkler-protected buildings



Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
	The requirements of Clause 3.5.5.2 do not apply to external fire hydrants located not more than 10m from the building, provided the building is sprinkler-protected by a sprinkler system or a combination of sprinkler systems confirming to AS 2118.1, AS 2118.4, AS 2188.6, FPAA101D or FPAA101H. 3.5.5.1 Sprinkler-protected buildings Where external fire hydrants are located not more than 10m from a non-sprinkler-protected building, that 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 for a height of not less than 2m above ground level; and (iv). is located immediately behind the fire hydrant and between the building and the fire hydrant.		
	6.11 Pump room of enclosure 6.11.1 General Pumpsets and associated equipment shall be installed within a waterproof room or enclosure that — (i) only contains firefighting pumpsets and associated equipment; (ii) is secured to prevent the entry of unauthorized persons; (iii) is ventilated with fresh air to maintain the aspiration and cooling of pump drivers for the required duration of pump operation; (iv) is heated and insulated, where necessary, to prevent freezing and condensation from forming; (v) is identified by — (i). a fade-and weather-resistant sign, permanently affixed to the pumproom door, stating in capital letters not less than 50mm high, in a colour contrasting with the background, FIRE PUMP ROOM; and (ii). a red strobe light, activated by the operation of the fixed on-site pumps, located outside the building, adjacent to the door providing access to the pump room; (vi) is construction with an internal clearance of not less than 2.1m; and (vii) is sized to allow for pump maintenance and replacement to occur.		



Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
6.11.2 Internal pump rooms			
Where the pump room is located within the protected building, the following shall apply:			
(a) Where a building is protected throughout by a sprinkler system conforming to AS 2118.1, AS 2118.4, AS 2118.6 or FPAA101H, the requirements of Item (b) need not apply.			
(b) A pump room shall have the following:			
(i). A fire resisting construction including walls and , where applicable, floor and roof that have an FRL not less than that required for a firewall for the building classification and type of construction applied to the building.			
(ii). Doorways protected with self-closing doors that have an FRL not less than that required for a fire wall required in Item (i), except that the door shall have an insulation level of not less than 30 min.			
(iii). Construction joints, service penetrations and other openings protected in a manner that maintains the FRL for the wall, roof or floor as required by Item (i).			
NOTE 1 Refer to the NCC for requirements related to the FRL of a fire wall, roof, or floor for different building classifications.			
NOTE 2 Refer to the NCC for requirements relating to construction joints, service penetrations and other openings in a fire wall, roof, or floor.			
(c) The pumproom shall have a door leading directly to —			
(i). road or open space;			
(ii). an airlock or smoke lobby that leads to —			
(A) a fire-isolated passageway or stair, leading to road or open space; and			
(B) a fire-isolated passageway or stair, pressurized in accordance with AS/NZS 1668.1, leading to road or open space.			
NOTE 3 Refer to the NCC for more information on the construction of an airlock or smoke lobby.			
(d) Where a compression ignition engine pumpset is installed —			
(i). the exhaust system for the pumpset shall discharge outside the building or to a mechanical exhaust system capable of safely discharging the pump exhaust gases;			
(ii). the discharge outlet from the exhaust system shall be not less than 2.7m above a path of travel or road.			
NOTE 4 The exhaust gases from the exhaust system discharge outlet should discharge clear of any ventilation, door or window openings within the building for the health and safety of persons within the building and at a height and orientation so as not to affect any person in the vicinity of the discharge outlet.			
6.11.2 External pump rooms or enclosures			
Where a pump room or enclosure is located externally to the protected building the following apply:			
(a) Where a building is protected throughout by a sprinkler system conforming to AS 2118.1, AS 2118.4, AS 2118.6 or FPAA101H, or the pumproom is located more than 6m from the protected building, the requirements of Item (b) do not have to be applied.			
(b) Any parts of the pump room or enclosure located not more than 6m from the protected building shall have the following:			
(i). A fire resisting construction including walls and, where applicable, floor and roof that has an FRL not less than that required for a firewall for the building classification and Type of Construction applied to the building.			
(ii). Doorways protected with self-closing doors having an FRL not less than that required for a fire wall as required in Item (i), except that the door shall have an insulation level of at least 30 min.			
(iii). Construction joints, service penetrations, service penetrations for ventilation that face the protected building and other openings, protected in a manner that maintains the FRL for the wall, roof or floor as required by Item (i).			

Part E1 – Fire Fighting Equipment

Clause	Description	Status	Comments
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NOTE 1 Refer to the NCC for requirements relating to the FRL of a fire wall, roof, or floor for different building classifications.

NOTE 2 Refer to the NCC for requirements relating to construction joints, service penetrations and other openings in a fire wall, roof, or floor.

- (c) The pumproom shall be located not more than 20m from a hardstand.
- (d) The pumproom shall be located not less than 10 m from —
 - (i). any high voltage electrical distribution equipment, such as transformers and distribution boards;
 - (ii). any stored dangerous goods (e.g. LPG, petroleum, propane); and
 - (iii). any external combustible storage (e.g. palleted combustible storage items).
- (e) Where a compression ignition engine pumpset is installed —
 - (i). the exhaust system from the pumpset shall discharge outside the building or to a mechanical exhaust system that is capable of safely discharging the pump exhaust gases; and
 - (ii). the discharge outlet from the exhaust shall be located not less than 2.7 m above a path of travel or road.

NOTE 3 The exhaust gases from the exhaust system discharge outlet should discharge clear of any ventilation, door or window openings within the building for the health and safety of persons within the building and at a height and orientation so as not to affect any person in the vicinity of the discharge outlet.

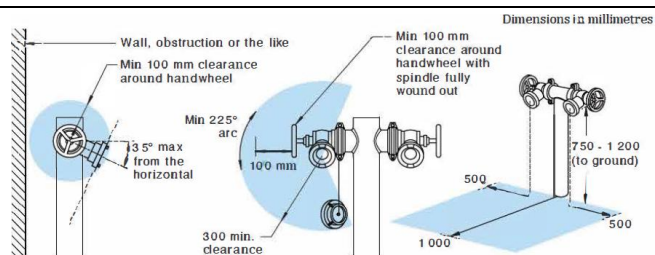


Figure H.3(A) — External fire hydrant clearances

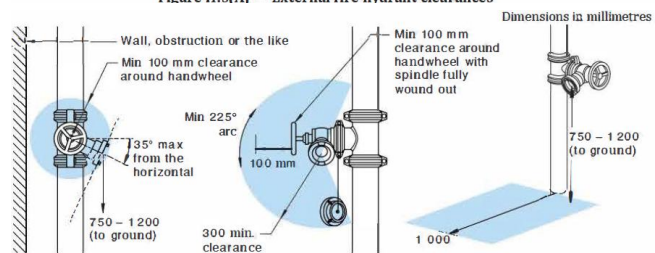


Figure H.3(B) — Internal fire hydrant clearances

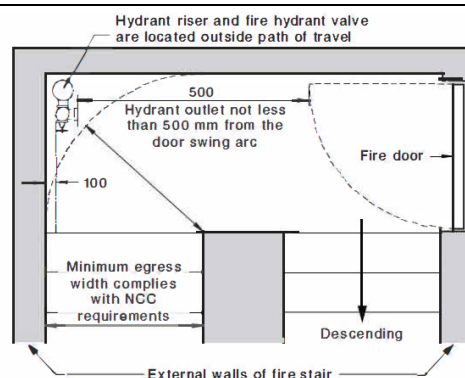


Figure H.3(C) — Internal fire hydrant clearances required within a fire isolated stair

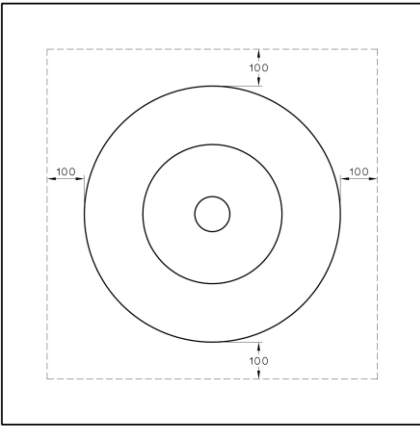
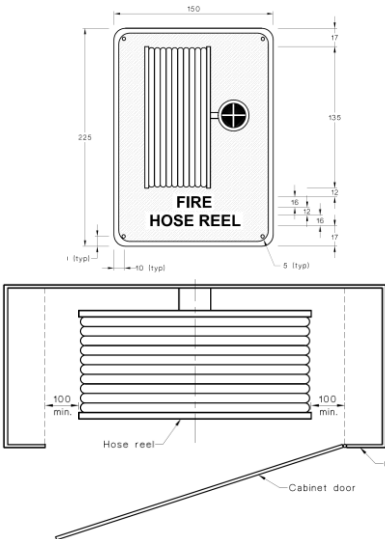
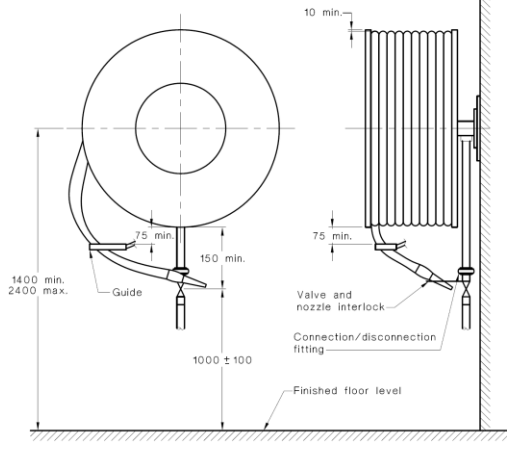


Part E1 – Fire Fighting Equipment

Clause	Description	Status	Comments				
Fire hydrant coverage from a fire brigade pumping appliance may only provide coverage up to the lowest four storeys included in the calculation of the rise in storeys, provided all parts of all storeys are covered Rise in storeys = 4 Level 3 Level 2 Level 1 Ground floor Basement level 1 Fire brigade pumping appliance supplied from a street or feed fire hydrant Designated hardstand. Fire brigade pumping appliance located not less than 10 m from the building Fire hydrant coverage from a fire brigade pumping appliance may only provide coverage to one level below the lowest storey used in the calculation of the rise in storeys provided all portions of the building are covered (in this case basement level 1) Figure H.6.1.2(A) — Coverage from a fire brigade pumping appliance Fire hydrant coverage from an external attack fire hydrant may only provide coverage up to the lowest four storeys included in the calculation of the rise in storeys, provided all parts of all storeys are covered Rise in storeys = 4 Level 3 Level 2 Level 1 Ground floor Basement level 1 External attack fire hydrant Fire brigade booster assembly Designated hardstand. Fire brigade pumping appliance located not more than 20 m from the booster Fire hydrant coverage from an external attack fire hydrant may only provide coverage to one level below the lowest storey used in the calculation of the rise in storeys provided all portions of the building are covered (in this case basement level 1) Figure H.6.1.3 — External attack fire hydrant coverage Internal fire hydrants provide fire hydrant coverage to those storeys not protected by external fire hydrants Level 3 Level 2 Mezzanine/level 1 Ground floor Basement level 1 Fire compartments complying with the NCC External attack fire hydrant Fire brigade booster assembly Designated hardstand. Fire brigade pumping appliance located not more than 20 m from the booster External fire hydrants only provide fire hydrant coverage to the lowest storey used in the calculation of the rise in storeys and the storey below this storey (in this case the ground floor/mezzanine level 1 and basement level 1) Figure H.6.1.4 — External fire hydrant coverage Level 3 Level 2 Level 1 Mezzanine Ground floor Basement level 1 Fire hydrant coverage provided to the lowest storey used in the calculation of rise in storeys (typically the ground floor), a mezzanine or storey located within the fire compartment that contains this storey Maximum 70 m fire hydrant coverage from fire brigade pumping appliance supplied by the feed fire hydrants of the fire brigade booster assembly Fire hydrant coverage provided to the storey immediately below the lowest storey used in the calculation of rise in storeys 10 m Figure H.6.4 — Feed fire hydrant coverage from a fire brigade booster assembly <tr><td>E1D3</td><td>Fire hose reels</td><td>CRA</td><td> Fire hose reels coverage is required within the carpark portions of the building if a hydrant is located within the building. Where fire hose reels are located within the building, they are to be within 4m of an exit, additional hose reels may be provided for coverage purposes however are to be located in a path of travel to an exit. Fire hose reels are to be installed accordance with AS2441. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate. </td></tr>				E1D3	Fire hose reels	CRA	Fire hose reels coverage is required within the carpark portions of the building if a hydrant is located within the building. Where fire hose reels are located within the building, they are to be within 4m of an exit, additional hose reels may be provided for coverage purposes however are to be located in a path of travel to an exit. Fire hose reels are to be installed accordance with AS2441. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.
E1D3	Fire hose reels	CRA	Fire hose reels coverage is required within the carpark portions of the building if a hydrant is located within the building. Where fire hose reels are located within the building, they are to be within 4m of an exit, additional hose reels may be provided for coverage purposes however are to be located in a path of travel to an exit. Fire hose reels are to be installed accordance with AS2441. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.				

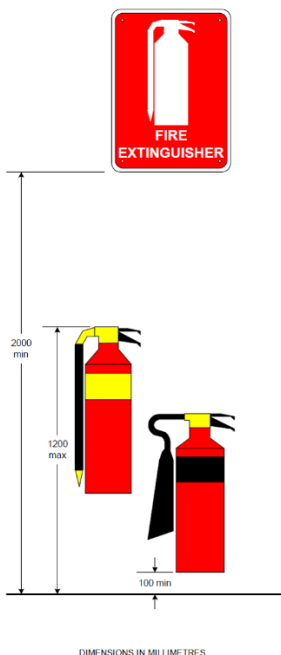


Part E1 – Fire Fighting Equipment

Clause	Description	Status	Comments
 (b) Front view DIMENSIONS IN MILLIMETRES FIGURE 10.2 FIXED HOSE REEL CLEARANCE  Hose reel Cabinet Cabinet door DIMENSIONS IN MILLIMETRES FIGURE 11.1 TYPICAL ARRANGEMENT OF FIXED TYPE HOSE REEL  Guide Valve and nozzle interlock Connection/disconnection fitting Finished floor level DIMENSIONS IN MILLIMETRES FIGURE 11.1 TYPICAL ARRANGEMENT OF FIXED TYPE HOSE REEL			
E1D4	Sprinklers	CRA	A sprinkler system must be installed in a building or part of a building when required by E1D5 to E1D13 as applicable and comply with Specification 17 and Specification 18 as applicable. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.
E1D5	Where sprinklers are required: all classifications	CRA	Sprinklers are required throughout all buildings if any part of the building has an effective height of more than 25m. The entire building is required to be sprinkler protected in accordance with Clause E1D5 and Specification 17 and Specification 18 of the BCA as it achieves an effective height greater than 25m. The sprinkler system must activate a building Occupant Warning System (BOWS) provided in accordance with Clause S20C7 of Specification 20 as required by Clause S17C8 of Specification 17 of the BCA. The grade of the water supply to a required sprinkler system must not be less than Grade 1 for a building greater than 25m in effective height, except that a second water supply storage capacity of 25000L may be used if— (i) the storage tank is located at the topmost story of the building; and (ii) the building occupancy is classified as no more hazardous than Ordinary Hazard 2 (OH2) under AS 2118.1; and (iii) an operational fire brigade service is available to attend a building fire. Where the sprinklers are installed in a space housing lift electrical and control equipment, including machine rooms, secondary floors and sheave rooms, they must be of the dry system type in accordance with AS 2118.1. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.



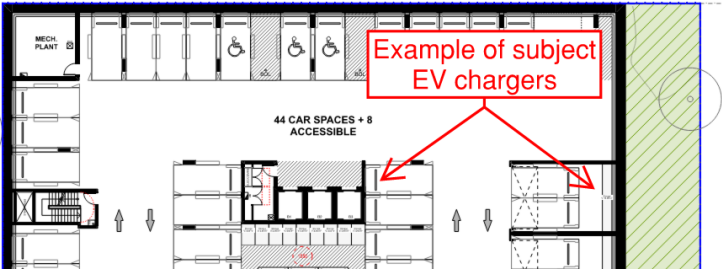
Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
E1D6	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	CRA	A Class 2 or 3 building (excluding a building used as a residential care building) and any other class of building (excluding a building used as a residential care building) containing a Class 2 or 3 part requires sprinkler protection throughout the whole building if any part of the building has a rise in storeys of 4 or more and an effective height of more than 25m. The building is required to be sprinkler protected throughout. Refer to Clause E1D4 & E1D5 for further details.
E1D7	Where sprinklers are required: Class 3 building used as a residential care building	N / A	
E1D8	Where sprinklers are required: Class 6 building	N / A	
E1D9	Where sprinklers are required: Class 7a building, other than an open-deck carpark	CRA	In a Class 7a building, other than an open-deck carpark, sprinklers are required in fire compartments where more than 40 vehicles are accommodated. Final plans and a design certificate from a qualified hydraulic engineer prior to the issue of a Construction Certificate.
E1D10	Where sprinklers are required: Class 9a health-care building used as a residential care building and Class 9c buildings	N / A	
E1D11	Where sprinklers are required: Class 9b buildings	CRA	(1) In a Class 9b building, other than an early childhood centre, see Part I1. (2) In a building containing a Class 9b early childhood centre, sprinklers are required throughout the whole building, including any part of another class. E1D11(2) does not apply to a Class 9b early childhood centre wholly within a storey that provides direct egress to a road or open space; or with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in the building.
E1D12	Where sprinklers are required: additional requirements	N / A	

Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
E1D13	Where sprinklers are required: occupancies of excessive hazard	N / A	
E1D14	Portable fire extinguishers	CRA	Portable fire extinguishers are required to be provided in accordance with Clause E1D14 of the BCA and AS 2444. For Class 2, 3 or 5 buildings or Class 4 parts of a building portable fire extinguishers must be provided to serve the whole storey where one or more internal fire hydrants are installed and when fire hydrants are not installed to serve any fire compartment which a floor area greater than 500m² (for the purposes of this Clause a Class 2, 3 or 4 parts of a building are considered to be a fire compartment). Portable fire extinguishers provided in a Class 2 or 3 building or Class 4 part of a building must be: • An ABE type fire extinguisher; and • A minimum size of 2.5kg; and • Distributed outside a sole-occupancy unit to serve the storey at which they are located and ensure that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m. Details demonstrating compliance with this clause must be incorporated into the architectural drawings prior to the issue of a Construction Certificate.
AS 2444—2001  DIMENSIONS IN MILLIMETRES FIGURE 3.2 MOUNTING HEIGHTS FOR PORTABLE FIRE EXTINGUISHERS AND LOCATION SIGNS		Signs are to be installed clearly over or directly adjacent to Portable fire extinguishers. – Each extinguisher shall be located in a conspicuous and readily accessible position. Extinguishers shall not be located in positions where access could present a hazard to the potential user. Where practicable, extinguishers shall be located along normal paths of travel and near exits. (Max 15m from each other etc) – Extinguishers Signs must be shown and shall be mounted not less than 2.0 m above floor level, or at a height that makes them most apparent to a person of average height and visual acuity approaching the extinguisher location. In addition to the location sign referred to in Clause 3.3 of AS2444, the cabinet or enclosure shall be marked with the words 'FIRE EXTINGUISHER' in letters at least 32 mm high in a colour contrasting with the background unless the door has not less than 50% of its surface area fabricated from transparent material that permits visual identification of the cabinet's contents. Signs are to be installed clearly over or directly adjacent to Portable fire extinguishers. – Each extinguisher shall be located in a conspicuous and readily accessible position. Extinguishers shall not be located in positions where access could present a hazard to the potential user. Where practicable, extinguishers shall be located along normal paths of travel and near exits. (Max 15m from each other etc)	



Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
			Extinguishers Signs must be shown and shall be mounted not less than 2.0 m above floor level, or at a height that makes them most apparent to a person of average height and visual acuity approaching the extinguisher location.
E1D15	Fire control centres	PS	The building retains an effective height of more than 25m and therefore must be provided with a fire control centre as required by Clause E1D15 of the BCA. A Class 6, 7, 8 or 9 building with a total floor area of more than 18,000m² is required to be provided with a fire control centre facility in accordance with Specification 19. A fire control centre is required on the ground floor, not more than 300m level difference from the street level and must comply with all relevant parts of Specification 19 of the BCA. Compliance can be achieved via undertaking a fire engineering performance solution prior to issue of the Construction Certificate.
E1D16	Fire precautions during construction	CRA	During construction, not less than one fire extinguisher to suit Class A, B and C fires is required for each storey, and is required to be located adjacent to each exit.
E1D17	Provisions for special hazards	PS	Suitable additional provision must be made if special problems of fighting fire could arise because of- - The nature or quantity of materials stored, displayed or used in a building or on the allotment; or - The location of the building in relation to a water supply for fire-fighting purposes. Solar Panels Solar photovoltaic (PV) (solar panels) are recommended to be provided with a performance solution due to the excessive hazard. Electric Vehicle Chargers Electric vehicle (EV) chargers are recommended to be provided with a performance solution due to the excessive hazard.



Part E1 – Fire Fighting Equipment			
Clause	Description	Status	Comments
			 Compliance can be achieved by undertaking a fire engineering performance solution prior to the issue of the Construction Certificate. Refer to Appendix C for further information.

General Fire Service Signage	
FIRE HOSE REEL FIRE HYDRANT BOOSTER FIRE EXTINGUISHER SPRINKLER STOP VALVE INSIDE FIRE PANEL	FIRE HYDRANT PUMP – DO NOT SWITCH OFF SPRINKLER BOOSTER CONNECTION FIRE CONTROL ROOM



Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
E2D1	Deemed-to-Satisfy Provisions	-	
E2D2	Application of Part	Noted	Part is not applicable to open-deck car parks, open spectator stands or Class 8 electricity network substations with a floor area not more than 200m ² , located within a multi-classified building.
E2D3	General requirements	CRA	The building must be provided with an automatic smoke detection and alarm system, and smoke detectors complying with Specification 20 and a Building Occupant Warning System (BOWS). Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
E2D4	Fire-isolated exits	PS	Stair Pressurisation System The proposed fire isolated stairways serving the basement and residential levels are to be provided with a stair pressurisation system installed in accordance with AS 1668.1-2015. Compliance can be achieved by undertaking a fire engineering performance solution prior to the issue of the Construction Certificate. Clause S20C6 of Specification 20 Smoke detectors required to activate air pressurisation systems for fire-isolated exits and zone pressurisation systems must— • be installed in accordance with AS 1670.1-2018; and • have additional smoke detectors installed adjacent to each bank of lift landing doors set back horizontally from the door openings by a distance of not more than 3 m. Smoke detectors provided to activate a zone control system must: • Either form part of a building fire or smoke detection system complying with AS 1670.1-2018 or be a separate system dedicated system incorporating control and indicating equipment complying with AS 1670.1-2018; and • Activate building occupant warning system complying with Clause S20C7 except that smoke detectors provided solely to initiate shutdown of air handling systems in accordance with (2)(a) need not activate a building occupant warning system. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.



Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
E2D5	Buildings more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	CRA	Class 2 Parts of the Building Each Class 2 SOU is to incorporate an AS3786 smoke alarm system which is connected to the consumer mains source and interconnected throughout the SOU. The common areas of the building are to incorporate a smoke detection and alarm system installed in accordance with AS1670.1-2018 and activate a Building Occupant Warning System (BOWS) being sound pressure <i>within</i> each SOU door is to achieve no less than 85 dB(A). Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate. Clause S20C7 of Specification 20 Subject to E4D9, a building occupant warning system provided as part of a smoke hazard management system must comply with Clause 3.22 of AS 1670.1-2018 to sound throughout all occupied areas except: In a Class 2 or 3 building or Class 4 part of a building provided with a smoke alarm system in accordance with Clause 3 or Specification 20 where the sound pressure within each SOU door is to achieve no less than 85 dB(A). Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
E2D6	Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 and 9b buildings	CRA	The Class 5, 6, 7b, 8 or 9b building or part of a building must be provided with a zone pressurisation system between vertically separated fire compartments in accordance with AS 1668.1 where there is more than one fire compartment containing these classifications. An air handling system which does not form part of a smoke management system in accordance with Clauses E2D4 – E2D20 and which recycles air from one compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must- - Be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or - Incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and Be arranged such that the air handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with Clause 4.10 of AS/NZS 1668. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Complying Development Certificate.
E2D7	Buildings more than 25 m in effective height: Class 9a buildings	N / A	



Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
E2D8	Buildings not more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	N / A	
E2D9	Buildings not more than 25 m in effective height: Class 5, 6, 7b, 8 and 9b buildings	N / A	
E2D10	Buildings not more than 25 m in effective height: large isolated buildings subject to C3D4	N / A	
E2D11	Buildings not more than 25 m in effective height: Class 9a and 9c buildings	N / A	
E2D12	Class 7a buildings	CRA	The carpark levels are to be provided with a mechanical ventilation system in accordance AS 1668.2 and must comply with Clause 5.5 of AS 1668.1 except that: The carpark is to be provided with fans with metal blades suitable for operation at normal temperature and electrical power and control cabling need not be fire rated. Upon activation of the BOWS, the fans are to run at full speed. Details and a design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.
E2D13	Basements (other than Class 7a buildings)	CRA	A basement not counted in the RIS with a total floor area of more than 2000 m², if not more than 2 below ground storey, must be provided with: - A zone pressurisation system between vertically separated fire compartments in accordance with AS 1668.11 or - An automatic smoke detection and alarm system complying with Specification 20; or - A sprinkler system (other than FPAA101D or FPAA101H system) complying with Specification 17. If more than 20 below ground storeys, a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 must be provided. Details and a design certificate will be required by a qualified mechanical engineer prior to the issue of a Construction Certificate.

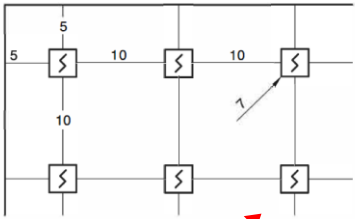
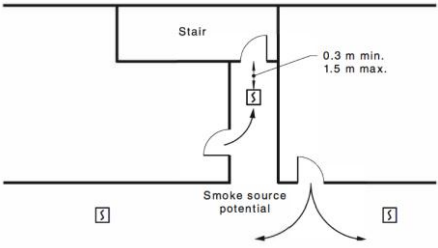
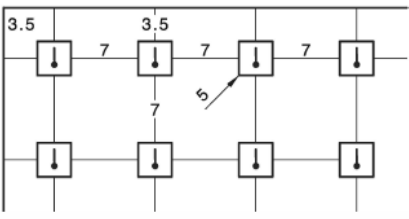
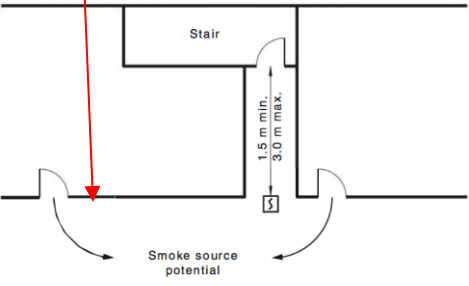


Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
E2D14	Class 6 buildings – in fire compartments more than 2000m ² : Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	N / A	
E2D15	Class 6 buildings – in fire compartments more than 2000m ² : Class 6 building (containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	N / A	
NSW E2D16	Class 9b – assembly buildings: all	CRA	A building or part of a building used as an assembly building must be provided with automatic shutdown of any air-handling system (other than non-ducted individual room units with a capacity of not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 6 and 6 of AS166831) which does not form part of the smoke hazard management system, on the activation of – • Smoke detectors installed complying with S20C6; and • Any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. A basement not counted in the RIS in accordance with C2D3, less than 2000 m² used as an assembly building or part of an assembly building containing an auditorium or other public area, must be equipped with- • An automatic smoke detection system in accordance with Specification 20; or • An automatic zone pressurisation system in accordance with AS1668.1 if the basement has more than one fire compartment; or if the basement forms part of a multi fire compartmented building served by the zone pressurisation system or • A sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. Stages and backstages" • For the purpose of this clause, where a stage is separated from the auditorium by a proscenium wall incorporating a proscenium opening, a backstage room or area that is not separated from the stage by construction having an FRL of not less than 60/60/60, is taken to form part of the stage.



Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
			- A building or part of a building used as an assembly building which has a stage with a floor area of more than 50 m² and not more than 150 m², over the stage, be provided with- - An automatic smoke exhaust system complying with Specification 21; or - Roof mounted automatic smoke-and-head vents complying with NSW I4D59, in a single storey building or the top storey of a multi storey building. - A building or part of a building used as an assembly building which has a stage with a floor area of more than 150 m² must, over the stage, be provided with an automatic smoke exhaust system complying with Specification 21 A building or part of a building used as an assembly building which has a stage equipped with means of flying scenery must, over the stage, be provided with an automatic smoke exhaust system complying with Specification 21.
NSW E2D17	Class 9b – assembly buildings: night clubs, discotheques and the like	CRA	
NSW E2D18	Class 9b – assembly buildings: exhibition halls, museums and art galleries	CRA	
NSW E2D19	Class 9b – assembly buildings: other assembly buildings (not listed in NSW E2D16 to E2D18)	CRA	Each fire compartment having a floor area of more than 2000 m² must be provided with: - An automatic smoke exhaust system complying with Specification 21; or - If the building is single storey or the top storey of a multi storey building, roof mounted automatic smoke-and-heat vents complying with Specification 22; or - If the floor area of the fire compartment is not more than 5000 m² and the building has a RIS of not more than 2: - An automatic smoke detection and alarm system complying with Specification 20; or - A sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 Sporting complexes other than indoor sports stadiums (with total spectator seating for more than 1000 persons), churches and places of religious worship, and school classrooms are exemption from the above provisions. A building containing a Class 9b early childhood centre must be provided with an automatic smoke detection and alarm system



Part E2 – Smoke Hazard Management			
Clause	Description	Status	Comments
			complying with Specification 20 throughout the whole building, including any part of another class. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.
NSW E2D20	Class 9b assembly buildings: other assembly buildings (not listed in NSW E2D16 to E2D19)	N / A	
 DIMENSIONS IN MILLIMETRES FIGURE 5.1.1(A) MAXIMUM SMOKE DETECTOR OR SMOKE ALARM SPACING ON LEVEL SURFACES   <u>I.e.: Heat Detectors – AS1670.1</u> <u>I.e.: Smoke Detectors – AS1670.1</u>  <u>I.e.: Smoke Detectors – AS1668.1 (M/V Shutdown etc.)</u>			
E2D21	Provision for special hazards	CRA	Additional smoke hazard measurements may be necessary due to the special characteristics, function/use of the building, materials stored in the building or mix of classifications within a building or fire compartment which are not addressed in E2D4 to E2D20.

Part E3 – Lift Installations
Refer to Access Report by Building Innovations Australia for further details.

Part E4 – Visibility in an Emergency, Exit Signs and Warning Systems			
Clause	Description	Status	Comments
E4D1	Deemed-to-Satisfy Provisions	-	-
E4D2	Emergency lighting requirements	CRA	Emergency lighting is to be provided throughout the building in accordance with Clause E4D2 of the BCA. Drawings a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4D3	Measurement of distance	Noted	
E4D4	Design and operation of emergency lighting	CRA	Emergency lighting shall be provided throughout the building in accordance with the requirements of Clause E4D4 of the BCA and AS 2293.1. Details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4D5	Exit signs	CRA	Exit signs are to be provided in accordance with Clause E4D5 of the BCA.
	 (a) Straight on from here (Refer to paragraph D3.3) (b) Left from here (c) Right from here		Exit signs must be clearly visible to person approaching the exit and must be installed on, above or adjacent to; 1. A door providing direct egress from a storey to a stairway, passageway or ramp serving as a required exit. 2. A door from an enclosed stairway, passageway or ramp at every level of discharge to a road or open space. 3. A door serving as or forming part of a required exit in a storey required to be provided with emergency lighting. A test switch is to be installed for each storey. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4D6	Direction signs	CRA	Where an exit is not readily apparent then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways, lobbies and the like indicating the direction to a required exit in accordance with Clause E4D6 of the BCA. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4D7	Class 2 and 3 buildings and Class 4 parts: exemptions	CRA	



Part E4 – Visibility in an Emergency, Exit Signs and Warning Systems			
Clause	Description	Status	Comments
E4D8	Design and operation of exit signs	CRA	Exit signs are to operate in accordance with AS 2293.1 or for a photo luminescent exit sign, Specification E4D8 and be clearly visible at all times while the building is occupied. Where and if requirements are altered under this proposal, details and a design certificate will be required by a suitably qualified electrical engineer prior to the issue of a Construction Certificate.
E4D9	Emergency warning and intercom systems	CRA	A sound system and intercom system for emergency purposes complying with AS 1670.4 must be installed within the building as it exceeds 25m in effective height. Details and a design certificate will be required by a qualified electrical engineer prior to the issue of a Construction Certificate.



SECTION F – HEALTH AND AMENITY

Part F1 – Surface water management, rising damp and external waterproofing			
Clause	Description	Status	Comments
F1D1	Deemed-to-Satisfy Provisions	Noted	Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F1P1 to F1P4 are satisfied by complying with F1D2 to F1D8.
F1D2	Application of Part	Noted	(1) F1D4 and F1D5 do not apply to a roof with a covering complying with F3D2(a) to (d). (2) F1D3 to F1D5 do not apply to a balcony, podium or similar horizontal surface part of a building- (a) where the flooring is of timber decking or other perforated flooring; or (b) which is located directly above ground.
F1D3	Stormwater drainage	CRA	Stormwater drainage design shall be in accordance with AS/NZS 3500.3. Details and a design certificate will be required by a suitably qualified hydraulic engineer prior to the issue of a Construction Certificate.
F1D4	Exposed joints	CRA	Exposed joints in the drainage surface on a roof balcony, podium or similar horizontal surface part a building must be protected in accordance with Section 2.9 of AS 46542 and not be located beneath or run through a planter box, water feature or similar part of the building. Details and a design certificate to be provided prior to the issue of a Construction Certificate.
F1D5	External waterproofing membranes	CRA	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane consisting of materials complying with AS4654.1 and designed and installed in accordance with AS4654.2. Wind speed and N rating are required to calculate the waterproofing termination height and hob sizes. Details and a design certificate to be provided prior to the issue of a Construction Certificate.
F1D6	Damp-proofing	CRA	Moisture from the ground must be prevented from reaching the lowest floor timbers and wall above the lower floor joists, the wall above the damp-proof course, and the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. Details and design certification to be provided prior to the issue of a Construction Certificate.



Part F1 – Surface water management, rising damp and external waterproofing			
Clause	Description	Status	Comments
F1D7	Damp-proofing of floors on the ground	CRA	A vapour barrier in accordance with AS2870 is to be provided beneath the basement floor slab. Details and design certification to be provided prior to the issue of a Construction Certificate.
F1D8	Subfloor ventilation	N / A	

Part F2 – Wet areas and overflow protection			
Clause	Description	Status	Comments
F2D1	Deemed-to-Satisfy Provisions	Noted	Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements F2P1 and F2P2 are satisfied by complying with F2D2 to F2D4.
F2D2	Wet area construction	CRA	Shower enclosure surfaces, floor surfaces in bathrooms, shower rooms, slopoppers, sink compartments, laundry and sanitary compartments is required to be waterproofed in accordance with AS 3740. In a Class 7 and Class 9 building, building elements in the bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must be water resistant or waterproof in accordance with Specification 26 and comply with AS 3740-2010 as if they were in a Class 2 or 3 building or a Class 4 part of a building. Details and design certification to be provided prior to the issue of a Construction Certificate.
F2D3	Rooms containing urinals	CRA	Rooms containing urinals are to comply with Clause F2D3 of the BCA. Where a slab or stall type urinal is installed: The floor surface of the room containing the urinal must be an impervious material and where no step is installed, be graded to the urinal channel for a distance of 1.5m from the urinal channel and the remainder of the floor be graded to a floor waste; and Where a step is installed: The step must have an impervious surface and be graded to the urinal channel and the floor being the step must be graded to a floor waste; and The junction between the floor surface and the urinal channel must be impervious. Where a wall hung urinal is installed:



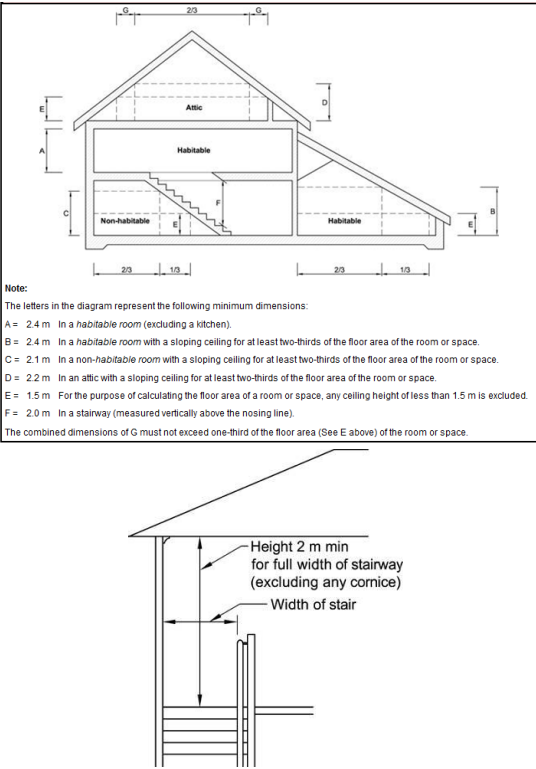
Part F2 – Wet areas and overflow protection			
Clause	Description	Status	Comments
			The wall must be surfaced with impervious material extending from the floor not less than 50mm above the top of the urinal and not less than 225mm on each side of the urinal. The floor must be surfaced with impervious material and graded to a floor waste. In a room with timber or steel framed walls and containing a urinal: The wall must be surfaced with an impervious material extending from the floor to not less than 100mm above the floor surface and the junction of the floor surface and the wall surface must be impervious. The newly proposed sanitary compartments are to comply with the following. Details and design certification to be provided prior to the issue of a Construction Certificate.
F2D4	Floor wastes	CRA	In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at any level above a SOU or public must have a floor waste. The floor of each bathroom / laundry is to be graded to permit drainage to a floor waste. Architectural plans to confirm locations of proposed floor wastes throughout the development including, but not limited to: laundries; bathrooms; showers; balconies; open spaces and the like. The plans forming part of the Construction Certificate Application must detail compliance with the above.



Part F3 – Roof and wall cladding			
Clause	Description	Status	Comments
F3D1	Deemed-to-Satisfy Provisions	Noted	Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5.
F3D2	Roof coverings	CRA	Roof coverings are to comply with the relevant Australian Standards as per Clause F3D2. Details and design certification to be provided prior to the issue of a Construction Certificate.
F3D3	Sarking	CRA	Sarking type materials used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2. Details and design certification to be provided prior to the issue of a Construction Certificate.
F3D4	Glazed assemblies	CRA	Windows, sliding doors with a frame, adjustable louvres, shopfronts and window walls with one piece framing in an external wall must comply with AS 2047 requirements for resistance to water penetration. Details and design certification to be provided prior to the issue of a Construction Certificate.
F3D5	Wall Cladding	CRA or PS	External wall cladding must comply with one of a combination of the following: • Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700. • Autoclaved aerated concrete: AS 5146.3. • Metal wall cladding: AS 1562.1. If external wall material is used, other than those listed above, a performance solution is required. Designer to confirm external wall materials prior to issue of the Construction Certificate. Details and design certification to be provided prior to the issue of a Construction Certificate.

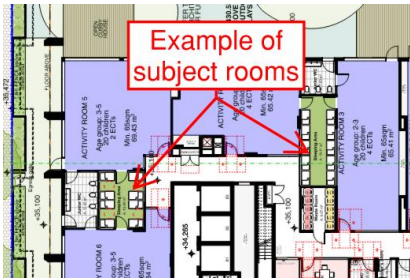
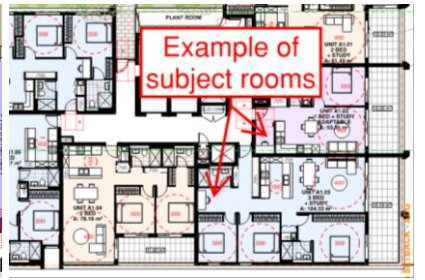
Part F4 – Sanitary and Other Facilities
Refer to Access Report by Building Innovations Australia for further details.



Part F5 – Room heights			
Clause	Description	Status	Comments
F5D1	Deemed-to-Satisfy Provisions	Noted	
F5D2	Height of rooms and other spaces	CRA	Ceiling heights must be not less than—
 Note: The letters in the diagram represent the following minimum dimensions: A = 2.4 m In a habitable room (excluding a kitchen). B = 2.4 m In a habitable room with a sloping ceiling for at least two-thirds of the floor area of the room or space. C = 2.1 m In a non-habitable room with a sloping ceiling for at least two-thirds of the floor area of the room or space. D = 2.2 m In an attic with a sloping ceiling for at least two-thirds of the floor area of the room or space. E = 1.5 m For the purpose of calculating the floor area of a room or space, any ceiling height of less than 1.5 m is excluded. F = 2.0 m In a stairway (measured vertically above the nosing line). The combined dimensions of G must not exceed one-third of the floor area (See E above) of the room or space.		(1) The height of rooms and other spaces in a Class 2 or 3 building or class 4 part of a building must be not less than — (a) for a kitchen, laundry, or the like — 2.1 m; and (b) for a corridor, passageway, or the like — 2.1 m; and (c) for a habitable room excluding a kitchen — 2.4 m; and (d) in habitable room, or space within a habitable room, with a sloping ceiling or projections below the ceiling line— (i) in an attic — a height of not less than 2.2 m for at least two-thirds of the floor area of the room or space; and (ii) in other rooms — a height of not less than 2.4 m over two-thirds of the floor area of the room or space; and (e) a habitable room, or space within a habitable room, with a sloping ceiling or projections below the ceiling line — a height of not less than 2.1 m for not less than two-thirds of the floor area of the room or space. (2) For the purposes of (1), when calculating the floor area of a room or space, any part that has a ceiling height of less than 1.5 m is not included; and (3) The height of rooms and other spaces in a Class 5, 6, 7 or 8 building must be not less than— (a) except as allowed in (b) and (8) — 2.4 m; and (b) a corridor, passageway, or the like — 2.1 m; and (5) The height of rooms and other spaces in a Class 9b building must be not less than— (a) a school classroom or other assembly building or part that accommodates not more than 100 people—2.4m; and (b) a theatre, public hall or other assembly building or part that accommodates more than 100 persons – 2.7m; and (c) a corridor — (i) that serves an assembly building or part that accommodates not more than 100 people — 2.4m; (ii) that serves an assembly building or part that accommodates more than 100 persons—2.7m; and (8) in any building— (a) a bathroom, shower room, sanitary compartment, airlock, tea preparation room, pantry, store room, garage, car parking area, or the like — 2.1 m; and	



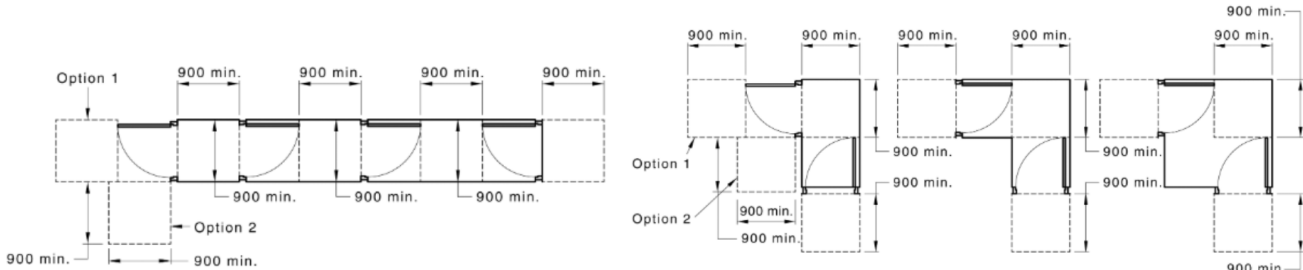
Part F5 – Room heights			
Clause	Description	Status	Comments
			(b) a commercial kitchen — 2.4 m; and (c) above a stairway, ramp, landing or the like — 2 m measured vertically above the nosing line of stairway treads or the floor surface of the ramp, landing or the like. Designer to verify compliance prior to the issue of the Construction Certificate.

Part F6 – Light and Ventilation			
Clause	Description	Status	Comments
F6D1	Deemed-to-Satisfy Provisions	Noted	
F6D2	Provision of natural light	CRA	Natural light must be provided to all habitable rooms located within the Class 2 portion of the development. Natural light must be provided to all general purpose rooms in all playrooms or the like for use of children in an early childhood centre.
F6D3	Methods and extent of natural light	PS	Required natural light must be provided by either: • Windows, excluding roof lights, that 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 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 • Roof lights, that 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 are open to the sky; or • Proportional combination of windows and roof lights. The glazing schedule is to be provided to determine whether the subject playrooms of the childcare centre required to be provided with natural light have been provided with sufficient natural lighting as required by this clause. Numerous rooms require review to ensure sufficient light and ventilation is provided to satisfy the requirements of Part F6 of the BCA.  

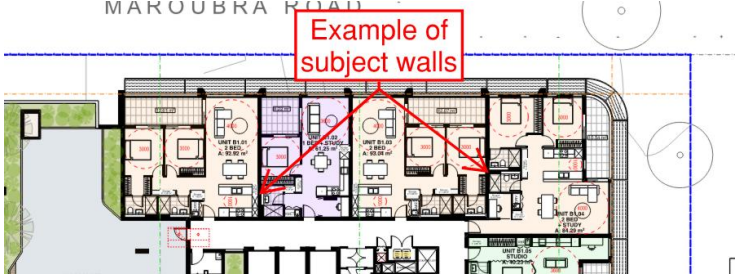


Part F6 – Light and Ventilation			
Clause	Description	Status	Comments
			Compliance can be achieved via undertaking a BCA performance solution prior to the issue of the Construction Certificate.
F6D4	Natural light borrowed from adjoining room	CRA	Natural lighting to a room in a Class 2 building or Class 4 part of a building or in a sole-occupancy unit of a Class 3 building, may come through a glazed panel or opening from an adjoining room (including an enclosed verandah). Designer to assess the design of light to all subject bedrooms prior to the issue of the Construction Certificate. Details and design certification for natural light borrowed are to be provided by the architect prior to the issue of a Construction Certificate.
F6D5	Artificial lighting	CRA	Artificial lighting must be provided in required stairways, passageways, ramps, sanitary compartments, bathrooms, laundries and other spaces used in common by occupants of the building complying with AS1680.0 in accordance with the requirements of Clause F6D5 of the BCA. Details and design certification to be provided by electrical engineer prior to the issue of a Construction Certificate.
F6D6	Ventilation of rooms	CRA	Ventilation shall be provided throughout the building by means of natural ventilation complying with Clause F6D7 or mechanical ventilation complying with the requirements of AS1668.2 and AS3666.1 as required by Clause F6D6 of the BCA. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate. <i>Note: Any air handling system which recycles air from one fire compartment to another or operates in a manner that may unduly contribute to the spread of smoke from one compartment to another must be designed to operate a smoke control system in accordance with AS1668.1 or incorporate smoke dampers where the air-handling ducts pass any separating element to another fire compartment and shutdown and the smoke dampers are activated to close automatically via smoke detectors complying with clause 4.10 of AS1668.1</i>
F6D7	Natural ventilation	CRA	Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened with a ventilating area not less than 5% of the floor area or the room required to be ventilated. The subject playrooms required to be provided with natural ventilation appear to retain sufficient natural ventilation. Should a mechanical ventilation system be provided in accordance with F6D6(b) of the BCA, the natural ventilation requirements of this clause are not required.
F6D8	Ventilation borrowed from adjoining room	CRA	In a Class 7 and 9 building 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 3.6m above the floor; and

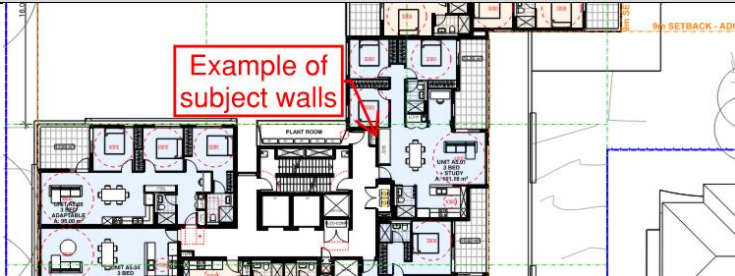


Part F6 – Light and Ventilation			
Clause	Description	Status	Comments
			The adjoining room has a window opening, door or other device with a ventilating area of not less than 10% of the combined floor areas of both rooms; and The ventilating areas specified above may be reduced as appropriate if direct natural ventilation is provided from another source.
F6D9	Restriction on location of sanitary compartments	Complies	
F6D10	Airlocks	Noted	Note: Airlocks must comply with the set distances under AS1428.1 :2021
 The diagrams illustrate two options for airlock configurations. Option 1 shows a series of airlocks with 900 min. dimensions. Option 2 shows a different configuration with 900 min. dimensions. The diagrams are labeled 'Option 1' and 'Option 2'.			
F6D11	Carparks	CRA	The carpark is to be provided with ventilation complying with AS1668.2 or have an adequate system of permanent natural ventilation. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate.
F6D12	Kitchen local exhaust ventilation	N / A	



Part F7 – Sound Transmission and Insulation			
Clause	Description	Status	Comments
F7D1	Deemed-to-Satisfy Provisions	Noted	-
F7D2	Application of part	Applies	Applicable to Class 2 buildings
F7D3	Determination of airborne sound insulation ratings	Noted	Construction required to have an airborne sound insulation rating must have the value for weighted sound reduction index (R _w) or weighted sound reduction index with spectrum adaptation term (R _w + C _{tr}) determined in accordance with AS/NZS1276.1, or ISO717.1 using result from laboratory measurements, or comply with Specification 28 of the BCA.
F7D4	Determination of impact sound insulation ratings	CRA	A floor required to have an impact sound insulation rating must have the required value for weighted normalised impact sound pressure level with spectrum adaptation term (L_{n,w}) determined in accordance with AS/ISO 717.2 using results from laboratory measurements or comply with Specification 28 of the BCA. A wall that is required to have an impact sound insulation rating must be of discontinuous construction. For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and for masonry, where wall ties are required to connect leaves, the ties are of the resilient type. For other than masonry, there is no mechanical linkage between leaves except at the periphery. SOU Walls Bounding SOU Bathrooms Discontinuous construction is required between the habitable rooms of an SOU and the bathroom of an adjoining SOU.  SOU Walls Bounding Mechanical Risers Discontinuous construction is recommended between the internal parts of an SOU and mechanical riser(s).



Part F7 – Sound Transmission and Insulation			
Clause	Description	Status	Comments
			 Design verification to be provided prior to the issue of the Construction Certificate.
F7D5	Sound insulation rating of floors	CRA	Floors separating sole occupancy units or separating sole occupancy units from a plant room, lift shaft, public lobby or the like or parts of different classifications must have an $R_w + C_{tr}$ of not less than 50 and an $L_{n,w} + C_I$ of not more than 62. A design certificate and details of form of construction required to achieve such will be required from a qualified acoustic engineer prior to the issue of a Construction Certificate.
F7D6	Sound insulation rating of walls	CRA	A wall separating sole occupancy units must have an $R_w + C_{tr}$ not less than 50. A wall separating a sole occupancy from a lift shaft, public lobby or the like, or parts of different classifications must have an $R_w + C_{tr}$ not less than 50. Compliance with F7D4(2) is required if the wall separates a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (excluding a kitchen) in another adjoining unit or a sole occupancy unit from a plant room or lift shaft. A door may be incorporated in a wall that separates a sole occupancy unit from a stairway, public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30. Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall. Where a wall required to have sound insulation has a roof above, the wall must continue to the underside of the roof above or a ceiling that provides the sound insulation required for the wall. A design certificate and details of form of construction required to achieve such will be required from a qualified acoustic engineer prior to the issue of a Construction Certificate.



Part F7 – Sound Transmission and Insulation			
Clause	Description	Status	Comments
F7D7	Sound insulation rating of internal services	CRA	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 $R_w + C_{tr}$ (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. If a storm water pipe passes through a sole-occupancy unit it must be separated in accordance with (a) and (b) above. A design certificate and details will be required by a qualified acoustic engineer prior to the issue of a Construction Certificate.
F7D8	Sound isolation of pumps	CRA	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.



Part F8 – Condensation management			
Clause	Description	Status	Comments
F8D1	Deemed-to-Satisfy Provisions	Noted	-
F8D2	Application of Part	Applies	Applicable to a sole-occupancy unit of a Class 2 building or a Class 4 part of a building.
F8D3	External wall construction	CRA	(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, 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. Details and a design certificate to be provided prior to the issue of a Construction Certificate.
F8D4	Exhaust systems	CRA	(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— (a) 25 L/s for a bathroom or sanitary compartment; and (b) 40 L/s for a kitchen or laundry. (2) Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must be discharged directly or via a shaft or duct to outdoor air. (3) Where space for a clothes drying appliance is provided in accordance with F4D2(1)(B), space must also be provided for ducting from the clothes drying appliance to outdoor air. (4) (3) does not apply if a condensing-type clothes drying appliance is installed. (5) An exhaust system that is not run continuously and is serving a bathroom or sanitary compartment that is not ventilated in accordance with F6D7 must- (a) be interlocked with the room's light switch; and (b) include a run-on timer so that the exhaust system continues to operate for 10 minutes after the light switch is turned off. (6) Except for rooms that are ventilated in accordance with F6D7, a room with space for ducting a clothes drying appliance to outdoor air in



Part F8 – Condensation management			
Clause	Description	Status	Comments
			accordance with (3) must be provided with make-up air in accordance with AS 1668.2. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate.
F8D5	Ventilation of roof spaces	CRA	(1) In climate zones 6, 7 and 8, a roof must have a roof space that— (a) is located— (i) immediately above the primary insulation layer, or (ii) immediately above sarking with a vapour permeance of not less than 1.14 µg/N.s, which is immediately above the primary insulation layer, or (iii) immediately above ceiling insulation which meets the requirements of J3D7(3) and J3D7(4); and (b) has a height of not less than 20 mm; and (c) is either— (i) ventilated to outdoor air through evenly distributed openings in accordance with Table F8D5; or (ii) located immediately underneath roof tiles of an unsarked tiled roof. (2) The requirements of (1) do not apply to— (a) 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. Details and design certification to be provided by mechanical engineer prior to the issue of a Construction Certificate.



SECTION G – ANCILLARY PROVISIONS

Part G1 – Minor Structures and Components			
Clause	Description	Status	Comments
G1D1	Deemed-to-Satisfy Provisions	Noted	
G1D2 & NSW G1D2	Swimming pools	CRA	This development includes a swimming pool. Note: Requirements for the Class 10b pool fall outside the scope of this BCA review. Please ensure NSW pool regulations are assessed by a suitably qualified consultant
G1D3	Refrigerated chambers, strong-rooms and vaults	N / A	
G1D4	Outdoor play spaces	CRA	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 2 m above the surface beneath — complies with AS 1926.1; and (b) where the edge of the trafficable surface of the outdoor play space is 2 m or more above the surface beneath— (i) is not less than 1.8 m 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 100 mm or greater sphere could pass; and (iv) is not within 1.8 m, 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 900 mm of elements in a wall that facilitate climbing; and (c) has strength and rigidity complying with AS 1926.1. 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. The above requirement does not apply to a wall, including doors and windows, which form part of the Class 9b early childhood centre. Plans submitted with the Construction Certificate Application must detail compliance with the above.



Part G1 – Minor Structures and Components			
Clause	Description	Status	Comments
NSW G1D5	Provision for cleaning windows	CRA	A safe manner of cleaning windows is to be provided as windows are located 3 or more storeys above ground level. The windows must either be able to be cleaned wholly from within the building, or a method complying with the Construction Safety Act 1912 and Regulations is required. Details verifying compliance must be provided prior to the issue of a Construction Certificate

Part G2 – Boilers, pressure vessels, heating appliances, fireplaces, chimneys and flues
N / A

Part G3 – Atrium construction
N / A

Part G4 – Construction in alpine areas
N / A

Part G5 – Construction in bushfire prone areas
N / A



Part G6 – Occupiable outdoor areas			
Clause	Description	Status	Comments
G6D1	Application of Part	Noted	(1) The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of NCC Volume One.. (2) The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provision of Sections C, D, E, F and G. (3) Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to- (a) An occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 Building, Class 9c building or Class 4 part of a building; or (b) An occupiable outdoor area with an area less than 10m².
G6D2	Fire hazard properties	CRA	(1) Subject to (2), a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element (2) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: (a) Average specific extinction area. (b) Smoke-Developed Index. (c) Smoke development rate. (d) Smoke growth rate index (SMOGRA RC) Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D3	Fire separation	CRA	For the purposes of the Deemed-to-Satisfy Provisions of C3D8, C3D9, and C3D10, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D4	Provision for escape	CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D5	Construction of exits	CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D6	Fire fighting equipment	CRA	Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.



Part G6 – Occupiable outdoor areas			
Clause	Description	Status	Comments
G6D7	Lift Installations	CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D8	Visibility in an emergency, exit signs and warning systems	CRA	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D9	Light and ventilation	CRA	For the purposes of the Deemed-to-Satisfy Provisions of F6D5, F6D9 and F6D10, a reference to a room includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.
G6D10	Fire orders	CRA	For the purposes of the Deemed-to-Satisfy Provisions of G4D8, a reference to a storey includes an occupiable outdoor area. Design certification will be required verifying compliance prior to the issue of a Construction Certificate.

Part G7 – Livable housing design
This Part is not applicable to NSW.



SECTION I – SPECIAL USE BUILDINGS

Part I1 – Class 9b Buildings			
Clause	Description	Status	Comments
I1D1	Application of Part	Noted	(1) The Deemed-to-Satisfy Provisions of this Part apply to every enclosed Class 9b building or part of a building which- (a) is a school assembly, church or community hall with a stage and any backstage area with at total floor area of more than 300m² ; or (b) Otherwise, has a stage and any backstage area with a total floor area of more than 200m²; or (c) Has a stage with an associated rigging loft. (2) Notwithstanding (1)- (a) I1D4 applies to every open or enclosed Class 9b building; and (b) I1D7 applies to every enclosed Class 9b building.
I1D2	Separation	CRA	A theatre, public hall or the link must- (a) Have a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17; or (b) Have the sage, backstage area and accessible under stage area separated from the audience by a proscenium wall in accordance with I1D3. Details and design certification to be provided prior to the issue of a Construction Certificate.
I1D3	Proscenium wall construction	N / A	A proscenium wall must comply with Specification 32. Details and design certification to be provided prior to the issue of a Construction Certificate.
I1D4	Seating area	CRA	In a seating area- (a) The gradient of the floor surface must not be steeper than 1 in 8, or the floor must be stepped so that- (i) A line joining the nosing of consecutive steps does not exceed an angle of 30° to the horizontal; and (ii) The height of each step in the steeped floor is not more than 600mm; and (iii) The height of any opening in such a step is not more than 125mm; and (b) If an aisle divides the stepped floor and the difference in level between any 2 consecutive steps- (i) Exceeds 230mm but not 400mm – an intermediate step must be provided in the aisle; and (ii) Exceeds 400mm – 2 equally spaced intermediate steps must be provided in the aisle; and



Part I1 – Class 9b Buildings			
Clause	Description	Status	Comments
			(iii) The going of intermediate steps must be not less than 270mm and such as to provide as nearly as practicable equal treads throughout the length of the aisle; and (c) The clearance between rows of fixed seats used for viewing performing arts, sport or recreational activities must be not less than- (i) 300mm if the distance to an aisle is not more than 3.5m; or (ii) 500mm if the distance to an aisle is more than 3.5m. Details and design certification to be provided prior to the issue of a Construction Certificate.
I1D5	Exits from stages	CRA	(1) The path of travel to an exit from a stage or performing area must not pass through the proscenium wall if the stage area is separated from the audience area with a proscenium wall (2) Required exits from backstage and under-stage areas must be independent of those provided for the audience area Details and design certification to be provided prior to the issue of a Construction Certificate.
I1D6	Access to platforms and lofts	CRA	A stairway that provides access to a service platform, rigging loft, or the like, must comply with AS 1657. Details and design certification to be provided prior to the issue of a Construction Certificate.
I1D7	Aisle lights	CRA	In every enclosed Class 9b building, where in any part of the auditorium, the general lighting is dimmed or extinguished during public occupation and the floor is stepped or is inclined at a slope steeper than 1 in 12, aisle light must be provided to illuminate the full length of the aisle and tread of each step. Details and design certification to be provided prior to the issue of a Construction Certificate.

SECTION J – ENERGY EFFICIENCY

A detailed assessment of Section J of the BCA is beyond the scope of this report.



4.0. CONCLUSION

Although demonstrating compliance with the BCA at DA assessment stage is not a prescribed head of consideration under Section 4.15 (formally Section 79C) of the Environmental Planning & Assessment Act 1979, Council has an obligation to consider whether the proposal, as lodged, is indicatively capable of complying with the BCA - without significant modification to those plans for which approval is sought.

In this instance we are confident that any modifications and advancement in level of details required to the proposal in order to satisfy the requirements of the BCA (in force at the time the Construction Certificate application is lodged) will not necessitate the need for any significant design changes that in turn would necessitate the submission of an application under Section 4.55 (formally Section 96) of the Environmental Planning and Assessment Act 1979.

In the same regard, we draw Council's attention to the requirements of Section 19 of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021, and suggest that detailed & specific BCA compliance matters shall be addressed to the satisfaction of the appointed Certifying Authority prior to the issue of the Construction Certificate.

Further, it is considered that this BCA review and the additional preparation of the required Construction Certificate documentation will be sufficient to ensure that the proposed design will achieve the necessary compliance with the BCA.

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APPENDIX A – FIRE RESISTANCE LEVELS (TYPE A CONSTRUCTION)

Table S5C11a: TYPE A CONSTRUCTION: FRL OF LOADBEARING PARTS OF EXTERNAL WALLS

Distance from a <i>fire-source feature</i>	FRL (in minutes): <i>Structural adequacy / Integrity / Insulation</i>			
	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 <i>fire-source feature</i>	FRL (in minutes): <i>Structural adequacy / Integrity / Insulation</i>			
	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): <i>Structural adequacy / Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
<i>Loadbearing</i>	90/–/–	120/–/–	180/–/–	240/–/–
<i>Non-loadbearing</i>	–/–/–	–/–/–	–/–/–	–/–/–

Table S5C11d: TYPE A CONSTRUCTION: FRL OF COMMON WALLS AND FIRE WALLS

Wall type	FRL (in minutes): <i>Structural adequacy / Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
<i>Loadbearing</i> or <i>non-loadbearing</i>	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): <i>Structural adequacy / Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
<i>Fire-resisting</i> lift and stair <i>shafts</i>	90/90/90	120/120/120	180/120/120	240/120/120
Bounding <i>public corridors</i> , public lobbies and the like	90/90/90	120/–/–	180/–/–	240/–/–
Between or bounding <i>sole-occupancy units</i>	90/90/90	120/–/–	180/–/–	240/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> 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): <i>Structural adequacy / Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
<i>Fire-resisting</i> lift and stair <i>shafts</i>	–/90/90	–/120/120	–/120/120	–/120/120
Bounding <i>public corridors</i> , public lobbies and the like	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units</i>	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> 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): <i>Structural adequacy / Integrity / Insulation</i>			
	Class 2, 3 or 4 part	Class 5, 7a or 9	Class 6	Class 7b or 8
Other <i>loadbearing</i> 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

Note: Under Specification 5, there are many individual additional requirements and concessions which need to be assessed and read in conjunction with this Specification. Your engineer is to confirm compliance with all required Fire Rated Elements.

General Requirements:

- Exposure to Fire-source features
- Fire Protection for a supporting of another part
- Lintels
- Attachments not to impair fire-resistance
- General concessions



Fire-resistance of building elements:

In a building required to be of Type A construction

- (a) each building element listed in Tables S5C11a-S5C11g and any beam or column incorporated in it, must have an FRL not less than that listed in the Tables for the particular Class of building concerned; and*
- (b) external walls, common walls and the flooring and floor framing of lift pits must be non-combustible; and*
- (c) 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 Tables S5C11a-S5C11g; or*
 - (iii) if under Clause 3.5 the roof is not required to comply with Tables S5C11a-S5C11g, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or*
 - (iv) a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes; and*
- (d) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and*
- (e) a non-loadbearing*
 - (i) internal wall required to be fire-resisting; and*
 - (ii) lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction; and*
- (f) the FRLs specified in Tables S5C11a-S5C11g for an external column apply also to those parts of an internal column that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.*



APPENDIX B – SCHEDULE 2: REFERENCED DOCUMENTS

Table 1 SCHEDULE OF REFERENCED DOCUMENTS

No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS/NZS ISO 717 Part 1	2004	Acoustics — Rating of sound insulation in buildings and of building elements — Airborne sound insulation. (See Note 1)	F7V1, F7V2, F7V3, F7V4, F7D3	H4V4	10.7.2	N/A
AS ISO 717 Part 2	2004	Acoustics — Rating of sound insulation in buildings and of building elements — Impact sound insulation	F7V1, F7V3, F7D4	N/A	N/A	N/A
AS 1056 Part 1	1991	Storage water heaters — General requirements (incorporating amendments 1, 2, 3, 4 and 5)	N/A	N/A	N/A	B2D2
AS/NZS 1170 Part 0	2002	Structural design actions — General principles (incorporating amendments 1, 3 and 4)	B1V1, B1D2, Spec 4	H1V1, H1D7	2.2.2	N/A
AS/NZS 1170 Part 1	2002	Structural design actions — Permanent, imposed and other actions (incorporating amendments 1 and 2)	B1D3	N/A	2.2.3, 2.2.4, 8.3.1, 11.2.2, 11.2.3, 11.3.4	N/A
AS/NZS 1170 Part 2	2021	Structural design actions — Wind actions	B1D3, B1D4, Spec 4, F3V1, Schedule 1	H1D7, H2V1, Schedule 1	2.2.3, Schedule 1	Schedule 1
AS/NZS 1170 Part 3	2003	Structural design actions — Snow and ice actions (incorporating amendments 1 and 2)	B1D3	N/A	2.2.3	
AS 1170 Part 4	2007	Structural design actions — Earthquake actions in Australia (incorporating amendments 1 and 2)	B1D3	H1D4, H1D5, H1D6, H1D9	2.2.3	N/A
AS 1191	2002	Acoustics — Method for laboratory measurement of airborne sound transmission insulation of building elements	Spec 29	N/A	N/A	N/A
AS 1273	1991	Unplasticized PVC (UPVC) downpipe and fittings for rainwater	N/A	N/A	7.4.2	N/A
AS 1288	2021	Glass in buildings — Selection and installation	B1D4, Spec 11, Spec 12	H1D8	8.3.1	N/A
AS 1289.6.3.3	1997	Methods of testing soils for engineering purposes — Method 6.3.3: Soil strength and consolidation tests — Determination of the penetration resistance of a soil — Perth sand penetrometer test (incorporating amendment 1)	N/A	N/A	4.2.4	N/A
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 1397	2021	Continuous hot-dip metallic coated steel sheet and strip — Coatings of zinc and zinc alloyed with aluminium and magnesium (See Note 10)	N/A	N/A	7.2.2	N/A
AS 1428 Part 1	2009	Design for access and mobility — General requirements for access — New building work (incorporating amendments 1 and 2)	D3D11, D3D16, D3D22, D4D2, D4D3, D4D4, D4D7, D4D10, D4D11, D4D13, Spec 16, E3D10, F4D5, G4D5, Schedule 1	Schedule 1	Schedule 1	Schedule 1, E1D2
AS 1428 Part 1	2001	Design for access and mobility — General requirements for access — New building work	I2D7, I2D8, I2D10, I2D15	N/A	N/A	E1D2
AS 1428 Part 1 (Supplement 1)	1993	Design for access and mobility — General requirements for access — Buildings — Commentary	I2D2	N/A	N/A	N/A
AS 1428 Part 2	1992	Design for access and mobility — Enhanced and additional requirements — Buildings and facilities	I2D2, I2D3, I2D4, I2D5, I2D7, I2D10, I2D11, I2D12, I2D13, I2D14	N/A	N/A	E1D2
AS 1428 Part 4	1992	Design for access and mobility — Tactile ground surface indicators for the orientation of people with vision impairment	I2D11	N/A	N/A	N/A
AS/NZS 1428 Part 4.1	2009	Design for access and mobility — Means to assist the orientation of people with vision impairment — Tactile ground surface indicators (incorporating amendments 1 and 2)	D4D9	N/A	N/A	N/A
AS 1530 Part 1	1994	Methods for fire tests on building materials, components and structures — Combustibility test for materials	Schedule 1	Schedule 1	Schedule 1	Schedule 1
AS 1530 Part 2	1993	Methods for fire tests on building materials, components and structures — Test for flammability of materials (incorporating amendment 1)	Schedule 1	Schedule 1	Schedule 1	Schedule 1



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS/NZS 1530 Part 3	1999	Methods for fire tests on building materials, components and structures — Simultaneous determination of ignitability, flame propagation, heat release and smoke release	Schedule 1, Spec 3	Schedule 1, Spec 3	Schedule 1	Schedule 1, Spec 3
AS 1530 Part 4	2014	Methods for fire tests on building materials, components and structures — Fire resistance tests for elements of construction	C4D15, C4D16, Spec 9, Spec 10, Spec 13, Spec 14, Schedule 1, Spec 3	9.3.2, Schedule 1, Spec 3	Schedule 1	Schedule 1, Spec 3
AS 1530 Part 8.1	2018	Methods for fire tests on building materials, components and structures — Tests on elements of construction for buildings exposed to simulated bushfire attack — Radiant heat and small flaming sources	Spec 43	N/A	N/A	N/A
AS/NZS 1546 Part 1	2008	On-site domestic wastewater treatment units - Septic tanks	N/A	N/A	N/A	C3D2
AS/NZS 1546 Part 2	2008	On-site domestic wastewater treatment units - Waterless composting toilets	N/A	N/A	N/A	C3D3
AS 1546 Part 3	2017	On-site domestic wastewater treatment units - Secondary treatment systems (incorporating amendment 1)	N/A	N/A	N/A	C3D4
AS 1546 Part 4	2016	On-site domestic wastewater treatment units - Domestic greywater treatment systems	N/A	N/A	N/A	C3D5
AS/NZS 1547	2012	On-site domestic wastewater management	N/A	N/A	N/A	C3D6
AS 1562 Part 1	2018	Design and installation of sheet roof and wall cladding — Metal (See Note 2)	B1D4, F3D2, F3D5	H1D7	N/A	N/A
AS1562 Part 3	2006	Design and installation of sheet roof and wall cladding — Plastic	B1D4, F3D2	H1D7	N/A	N/A
AS 1657	2018	Fixed platforms, walkways, stairways and ladders — Design, construction and installation	D2D21, D2D22, D3D23, I1D6, I3D5	N/A	N/A	N/A
AS/NZS 1664 Part 1	1997	Aluminium structures — Limit state design (incorporating amendment 1)	B1D4	N/A	2.2.4	N/A
AS/NZS 1664 Part 2	1997	Aluminium structures — Allowable stress design (incorporating amendment 1)	B1D4	N/A	2.2.4	N/A
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 1668 Part 1	2015	The use of ventilation and air conditioning in buildings — Fire and smoke control in buildings (incorporating amendment 1)	C3D13, C4D15, Spec 11, D2D12, Spec 19, E2D3, E2D4, E2D6, E2D7, E2D8, E2D9, E2D11, E2D12, E2D13, E2D16, E2D17, E2D19, F6D12, Spec 21, Spec 31	N/A	N/A	N/A
AS 1668 Part 2	2012	The use of ventilation and air conditioning in buildings — Mechanical ventilation in buildings (incorporating amendments 1 and 2)	E2D12, F6V1, F6D6, F6D11, F6D12, F8D4, J6D4	H4V3, H4D7	10.8.2	N/A
AS 1668 Part 4	2012	The use of ventilation and air conditioning in buildings — Natural ventilation of buildings	F6D11	N/A	N/A	N/A
AS 1670 Part 1	2018	Fire detection, warning, control and intercom systems — System design, installation and commissioning — Fire (incorporating amendment 1) (See Note 3)	C4D6, C4D7, C4D8, C4D9, C4D12, D3D26, E2D3, E2D10, G4D7, Spec 12, Spec 20, Spec 23, Spec 31	N/A	9.5.1	N/A
AS 1670 Part 3	2018	Fire detection, warning, control and intercom systems — System design, installation and commissioning — Fire alarm monitoring (incorporating amendment 1) (See Note 3)	Spec 20, Spec 23	N/A	N/A	N/A
AS 1670 Part 4	2018	Fire detection, warning, control and intercom systems — System design, installation and commissioning — Emergency warning and intercom systems (incorporating amendment 1) (See Note 3)	E3V2, E4D9, Spec 31	N/A	N/A	N/A
AS/NZS 1680 Part 0	2009	Interior lighting — Safe movement	F6D5	N/A	10.5.2	N/A
AS 1684 Part 2	2021	Residential timber-framed construction — Non-cyclonic areas	B1D4, B1D5, F1D8	H1D6	2.2.5, 4.2.13, 5.6.6, 6.2.1, 6.3.6, 7.5.2, 7.5.3, 7.5.4, 10.2.19, 10.2.20	N/A



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 1684 Part 3	2021	Residential timber-framed construction — Cyclonic areas	B1D4, B1D5, F1D8	H1D6	2.2.5, 4.2.13, 5.6.6, 6.2.1, 6.3.6, 7.5.2, 7.5.3, 7.5.4, 10.2.19, 10.2.20	N/A
AS 1684 Part 4	2010	Residential timber-framed construction — Simplified — Non-cyclonic areas (incorporating amendment 1)	B1D4, B1D5, F1D8	H1D6	2.2.5, 4.2.13, 5.6.6, 6.2.1, 7.5.2, 7.5.3, 7.5.4, 10.2.19, 10.2.20	N/A
AS 1720 Part 1	2010	Timber structures — Design methods (incorporating amendments 1, 2 and 3)	B1V1, B1D4	H1V1, H1D6	4.2.13, 5.3.3	N/A
AS/NZS 1720 Part 4	2019	Timber structures — Fire resistance of timber elements	Spec 1	Spec 1	N/A	Spec 1
AS 1720 Part 5	2015	Timber structures — Nailplated timber roof trusses (incorporating amendment 1)	B1D4	H1D6	N/A	N/A
AS 1735 Part 11	1986	Lifts, escalators and moving walks — Fire rated landing doors	C4D11	N/A	N/A	N/A
AS 1735 Part 12	1999	Lifts, escalators and moving walks — Facilities for persons with disabilities (incorporating amendment 1)	E3D8, I2D6	N/A	N/A	N/A
AS/NZS 1859 Part 4	2018	Reconstituted wood based panels — Specifications — Wet process fibreboard	N/A	N/A	7.5.3, 7.5.4	N/A
AS 1860 Part 2	2006	Particleboard flooring — Installation (incorporating amendment 1)	B1D4	H1D6	N/A	N/A
AS 1905 Part 1	2015	Components for the protection of openings in fire-resistant walls — Fire-resistant doorsets (incorporating amendment 1)	C4D7, Spec 12	N/A	N/A	N/A
AS 1905 Part 2	2005	Components for the protection of openings in fire-resistant walls — Fire-resistant roller shutters	Spec 12	N/A	N/A	N/A
AS 1926 Part 1	2012	Swimming pool safety — Safety barriers for swimming pools	G1D2, G1D4	H7D2	N/A	N/A
AS 1926 Part 2	2007	Swimming pool safety — Location of safety barriers for swimming pools (incorporating amendments 1 and 2)	G1D2	H7D2	N/A	N/A
AS 1926 Part 3	2010	Swimming pool safety — Water recirculation systems (incorporating amendment 1)	G1D2	H7D2	N/A	N/A
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 2047	2014	Windows and external glazed doors in buildings (incorporating amendments 1 and 2) (See Note 4)	B1D4, F3V1, F3D4, J5D5	H1D8, H2V1	13.4.4	N/A
AS 2049	2002	Roof tiles (incorporating amendment 1)	F3D2	H1D7	N/A	N/A
AS 2050	2018	Installation of roof tiles	B1D4, F3D2	H1D7	7.3.2	N/A
AS 2118 Part 1	2017	Automatic fire sprinkler systems — General systems (incorporating amendments 1 and 2)	C1V3, Spec 17, Spec 18	N/A	N/A	N/A
AS 2118 Part 4	2012	Automatic fire sprinkler systems — Sprinkler protection for accommodation buildings not exceeding four storeys in height	Spec 17, Spec 18	N/A	N/A	B4D3
AS 2118 Part 5	2008 (R 2020)	Automatic fire sprinkler systems - Home fire sprinkler systems	N/A	N/A	N/A	B4D3
AS 2118 Part 6	2012	Automatic fire sprinkler systems — Combined sprinkler and hydrant systems in multistorey buildings	Spec 17	N/A	N/A	B4D3
AS 2159	2009	Piling — Design and installation (incorporating amendment 1)	B1D4	H1D12	N/A	N/A
AS/NZS 2179 Part 1	2014	Specifications for rainwater goods, accessories and fasteners — Metal shape or sheet rainwater goods, and metal accessories and fasteners	N/A	N/A	7.4.2	N/A
AS/NZS 2269 Part 0	2012	Plywood — Structural — Specifications (incorporating amendment 1)	N/A	N/A	7.5.4	N/A
AS/NZS 2293 Part 1	2018	Emergency lighting and exit signs for buildings — System design, installation and operation (incorporating amendment 1)	E4D4, E4D8, Spec 25, I3D15	N/A	N/A	N/A
AS 2312 Part 1	2014	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings — Paint coatings	N/A	N/A	6.3.9	N/A
AS/NZS 2312 Part 2	2014	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings — Hot dip galvanizing	N/A	N/A	6.3.9	N/A
AS/NZS 2327	2017	Composite structures — Composite steel-concrete construction in buildings (incorporating amendment 1)	B1D4, Spec 1	Spec 1	2.2.4	Spec 1



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 2419 Part 1	2021	Fire hydrant installations — System design, installation and commissioning	C3D13, E1D2, Spec 18, I3D9	N/A	N/A	B4D4
AS 2441	2005	Installation of fire hose reels (incorporating amendment 1)	E1D3	N/A	N/A	B4D5
AS 2444	2001	Portable fire extinguishers and fire blankets — Selection and location	E1D14, I3D11	N/A	N/A	N/A
AS 2665	2001	Smoke/heat venting systems — Design, installation and commissioning	Spec 22, Spec 31	N/A	N/A	N/A
AS 2699 Part 1	2020	Built-in components for masonry construction — Wall ties (See Note 9)	C2D10	N/A	5.6.5	N/A
AS 2699 Part 3	2020	Built-in components for masonry construction — Lintels and shelf angles (durability requirements) (See Note 9)	C2D10	N/A	5.6.7	N/A
AS 2870	2011	Residential slabs and footings	F1D7	H1D4, H1D5	3.4.2, 4.2.2, 4.2.6, 4.2.8, 4.2.11, 4.2.14, 4.2.15, 10.2.9	N/A
AS/NZS 2890 Part 6	2009	Parking facilities — Offstreet parking for people with disabilities	D4D6	N/A	N/A	N/A
AS/NZS 2904	1995	Damp-proof courses and flashings (incorporating amendments 1 and 2)	F1D6	N/A	5.7.3, 7.5.6, 12.3.3	N/A
AS/NZS 2908 Part 1	2000	Cellulose-cement products — Corrugated sheets	B1D4	N/A	N/A	N/A
AS/NZS 2908 Part 2	2000	Cellulose-cement products — Flat sheets	Schedule 1	Schedule 1	7.5.3, 7.5.4, 7.5.5, 10.2.9, 10.2.10, Schedule 1	Schedule 1
AS/NZS 2918	2018	Domestic solid fuel burning appliances — Installation (See Note 8)	G2D2	H7D5	12.4.4, 12.4.5	N/A
AS/NZS 3013	2005	Electrical installations — Classification of the fire and mechanical performance of wiring system elements	C3D14	N/A	N/A	N/A
AS/NZS 3500 Part 0	2021	Plumbing and drainage — Glossary of terms	A1G4	A1G4	N/A	A1G4
AS/NZS 3500 Part 1	2018	Plumbing and drainage — Water services	N/A	N/A	N/A	B5D6
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS/NZS 3500 Part 1	2021	Plumbing and drainage — Water services	N/A	N/A	N/A	B1D3, B1D5, B1D6, B3D3, B5V1, B5D2, B5D3, B5D4, Spec 41, B6D2, B6D3, B6D5, B7D3
AS/NZS 3500 Part 2	2021	Plumbing and drainage — Sanitary plumbing and drainage (incorporating amendment 1)	N/A	N/A	N/A	C1D3, C1V1, C1V2, C1V3, C1V4, C1V5, C2V2, C2D3, C2D4, C3D7
AS/NZS 3500 Part 3	2021	Plumbing and drainage — Stormwater drainage (See Note 11)	F1D3	H2D2, H2D6	7.4.3	N/A
AS/NZS 3500 Part 4	2021	Plumbing and drainage — Heated water services (incorporating amendment 1)	N/A	N/A	N/A	B2D2, B2D6, B2D7, B2D8, B2D9, B2D11
AS 3600	2018	Concrete structures (incorporating amendments 1 and 2)	B1V1, B1D4, Spec 1	H1V1, H1D4, Spec 1	3.4.2, 4.2.6, 4.2.10, 4.2.13, 5.3.3, 10.2.9	Spec 1
AS 3660 Part 1	2014	Termite management — New building work (incorporating amendment 1)	B1D4, F1D6	N/A	3.4.1, 3.4.2	N/A
AS 3660 Part 3	2014	Termite management — Assessment criteria for termite management systems	N/A	N/A	3.4.2	N/A
AS/NZS 3666 Part 1	2011	Air-handling and water systems of buildings — Microbial control — Design, installation and commissioning	F4D10, F6D6	N/A	N/A	N/A
AS 3700	2018	Masonry structures	B1D4, F3D5, Spec 1, Spec 2	H1D5, H2D4, Spec 1, Spec 2	5.3.3, 5.4.2, 5.6.3, 6.3.6, 10.2.9, 10.2.19, 10.2.20, 12.4.3	Spec 1, Spec 2
AS 3740	2021	Waterproofing of domestic wet areas	F2D2	H4D2, H4D3	10.2.20	N/A
AS 3786	2014	Smoke alarms using scattered light, transmitted light or ionization (incorporating amendment 1 and 2) (See Note 5)	Spec 20	N/A	9.5.1	N/A
AS/NZS 3823 Part 1.2	2012	Performance of electrical appliances — Air conditioners and heat pumps — Ducted air conditioners and air-to-air heat pumps — Testing and rating for performance	Spec 33, J6D12	N/A	N/A	N/A



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 3959	2018	Construction of buildings in bushfire-prone areas (incorporating amendments 1 and 2)	C2D14, F8D5, G5D2, G5D3, Spec 43	H7D4	10.8.3	B1D4, B2D10, B3D4, C1D4, C2D5
AS/NZS 4020	2018	Testing of products for use in contact with drinking water (See Note 6)	A5G4	A5G4	N/A	A5G4
AS 4055	2021	Wind loads for housing	Schedule 1	H1D6, H1D8, Schedule 1	2.2.3, Schedule 1	Schedule 1
AS 4072 Part 1	2005	Components for the protection of openings in fire-resistant separating elements — Service penetrations and control joints (incorporating amendment 1)	C4D15, C4D16	N/A	9.3.2	N/A
AS 4100	2020	Steel structures	B1D4, Spec 1	H1D6, Spec 1	4.2.13, 5.6.7	Spec 1
AS 4200 Part 1	2017	Pliable building membranes and underlays — Materials (incorporating amendment 1)	F3D3, F8D3, Spec 36, Schedule 1	Schedule 1	7.3.4, 7.5.2, 7.5.8, 10.8.1, Schedule 1	Schedule 1
AS 4200 Part 2	2017	Pliable building membranes and underlays — Installation requirements (incorporating amendments 1 and 2)	F3D3, F8D3	N/A	10.8.1	N/A
AS/NZS 4234	2021	Heated water systems — Calculation of energy consumption	Spec 45	N/A	N/A	B2D2
AS 4254 Part 1	2021	Ductwork for air-handling systems in buildings — Flexible duct	Spec 7, J6D7	H3D2	13.7.4	N/A
AS 4254 Part 2	2012	Ductwork for air-handling systems in buildings — Rigid duct	Spec 7, J6D5, J6D7	N/A	13.7.4	N/A
AS/NZS 4284	2008	Testing of building facades	F3V1	H2V1	N/A	N/A
AS/NZS 4505	2012	Garage doors and other large access doors (incorporating amendment 1)	B1D4	N/A	2.2.4	N/A
AS 4552	2005	Gas fired water heaters for hot water supply and/or central heating	N/A	N/A	N/A	B2D2
AS 4586	2013	Slip resistance classification of new pedestrian surface materials (incorporating amendment 1) (See Note 7)	D3D11, D3D14, D3D15, Spec 27	N/A	11.2.4	N/A
AS 4597	1999	Installation of roof slates and shingles (Non-interlocking type)	B1D4, F3D2	H1D7	N/A	N/A
AS/NZS 4600	2018	Cold-formed steel structures	B1D4, Spec 1	H1D6, Spec 1	5.3.3, 6.3.6	Spec 1
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 4654 Part 1	2012	Waterproofing membranes for external above-ground use — Materials	F1D5	H2D8	N/A	N/A
AS 4654 Part 2	2012	Waterproofing membranes for external above-ground use — Design and installation	C2D14, F1D4, F1D5	H2D8	N/A	N/A
AS 4678	2002	Earth-retaining structures	N/A	H1D3	N/A	N/A
AS 4773 Part 1	2015	Masonry in small buildings — Design (incorporating amendment 1)	N/A	H1D5, H2D4	5.6.3, 12.4.3	N/A
AS 4773 Part 2	2015	Masonry in small buildings — Construction (incorporating amendment 1)	N/A	H1D5, H2D4	5.6.3, 12.4.3	N/A
AS/NZS 4859 Part 1	2018	Thermal insulation materials for buildings — General criteria and technical provisions	J4D3, J6D6, J6D9	N/A	13.2.2, 13.7.2, 13.7.4	N/A
AS/NZS 4859 Part 2	2018	Thermal insulation materials for buildings — Design	J3D8, J4D3, Spec 36, Spec 37	N/A	13.2.5, 13.2.6	N/A
AS/NZS 4858	2004	Wet area membranes	N/A	N/A	10.2.8	N/A
AS 5113	2016	Classification of external walls of buildings based on reaction-to-fire performance (incorporating amendment 1)	C1V3	N/A	N/A	N/A
AS 5146 Part 1	2015	Reinforced autoclaved aerated concrete — Structures (incorporating amendment 1)	B1D4	H1D7	N/A	N/A
AS 5146 Part 3	2018	Reinforced autoclaved aerated concrete — Construction	F3D5	N/A	N/A	N/A
AS 5216	2021	Design of post-installed and cast-in fastenings in concrete	B1D4	N/A	2.2.4	N/A
AS/NZS 5601 Part 1	2013	Gas installations — General installations	J1V4	H6V3	N/A	N/A
AS 5637 Part 1	2015	Determination of fire hazard properties — Wall and ceiling linings	Spec 7, Schedule 1	Schedule 1	Schedule 1	Schedule 1
AS ISO 9239 Part 1	2003	Reaction to fire tests for floorings — Determination of the burning behaviour using a radiant heat source	Schedule 1	Schedule 1	Schedule 1	Schedule 1
AS/NZS ISO 9972	2015	Thermal performance of buildings — Determination of air permeability of buildings — Fan pressurization method	J1V4	H6V3	N/A	N/A
AIRAH-DA07	2021	Criteria for moisture control design analysis in buildings	F8V1	H4V5	N/A	N/A



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AIRAH-DA09	1998	Air conditioning load estimation	Spec 35	N/A	N/A	N/A
AIRAH-DA28	2011	Building management and control systems	Spec 34	N/A	N/A	N/A
ANSI/ASHRAE Standard 55	2013	Thermal environmental conditions for human occupancy	Schedule 1	Schedule 1	Schedule 1	Schedule 1
ANSI/ASHRAE Standard 140	2007	Standard method of test for the evaluation of building energy analysis computer programs	J1V1, J1V2, J1V3, J1V5	H6V2	N/A	N/A
ASTM E2073-10	2010	Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings	Spec 25	N/A	N/A	N/A
ASTM E72-15	2015	Standard Test Methods of Conducting Strength Tests of Panels for Building Construction	Spec 6	N/A	N/A	N/A
ASTM E695-03	2003	Standard Test Method of Measuring Relative Resistance of Wall, Floor and Roof Construction to Impact Loading	Spec 6	N/A	N/A	N/A
ASTM E96	2016	Standard Test Methods for Water Vapor Transmission of Materials	Schedule 1	Schedule 1	Schedule 1	Schedule 1
AHRI 460	2005	Performance rating of remote mechanical-draft air-cooled refrigerant condensers	J6D13	N/A	N/A	N/A
AHRI 551/591	2015	Performance rating of water-chilling and heat pump water-heating packages using the vapor compression cycle.	Spec 33, J6D11	N/A	N/A	N/A
ABCB	2022	Fire Safety Verification Method	C1V4	N/A	N/A	N/A
ABCB	2022	Housing Provisions Standard	N/A	Throughout	Throughout	N/A
ABCB	2022	Livable Housing Design	G7D2	H4D3, H8D2	3.3.3, 11.2.3	N/A
ABCB	2011	Protocol for Structural Software, Version 2011.2	B1D5	H1D6	2.2.5	N/A
ABCB	2012	Standard for Construction of Buildings in Flood Hazard Areas, Version 2012.3	B1D6	H1D10	N/A	N/A
ABCB	2022	Standard for NatHERS Heating and Cooling Load Limits, Version 2022.1	J3D3	Spec 42	N/A	N/A
ABCB	2022	Standard for Whole-of-Home Efficiency Factors	J3D14	N/A	13.6.2	N/A
CIBSE Guide A	2015	Environmental design	Spec 34, Spec 35, J4D3, J4D7	N/A	N/A	N/A
No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
N/A	2002	Disability Standards for Accessible Public Transport	F4D12, I2D1	N/A	N/A	N/A
N/A	2010	Education and Care Services National Law Act (Vic)	Schedule 1	Schedule 1	Schedule 1	Schedule 1
European Union Commission Regulation 547/2012	2012	Eco-design requirements for water pumps	J6D8	N/A	N/A	N/A
European Union Commission Regulation 622/Annex II, point 2	2012	Eco-design requirements for glandless standalone circulators and glandless circulators integrated in products	J6D8	N/A	N/A	N/A
FPA101D	2021	Automatic Fire Sprinkler System Design and Installation — Drinking Water Supply	C1V3, C2D6, C2D13, C3D2, C3D7, C3D8, C4D6, C4D7, C4D8, C4D9, C4D12, Spec 5, Spec 7, D2D4, D2D17, D3D26, D3D30, E2D8, E2D9, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, Spec 17, Spec 18, Spec 20, G3D1, G3D6, Spec 31, I1D2, Schedule 1	Schedule 1	Schedule 1	B4D3, Schedule 1



No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
FPA101H	2018	Automatic Fire Sprinkler System Design and Installation — Hydrant Water Supply (incorporating amendment 1)	C1V3, C2D6, C2D13, C3D2, C3D7, C3D8, Spec 5, Spec 7, Spec 17, Spec 18, E2D8, E2D9, E2D13, E2D14, E2D15, E2D16, E2D17, E2D19, E2D20, Spec 20, G3D1, G3D6, Spec 31, I1D2	N/A	N/A	B4D3
ISO 140 Part 6	1998E	Acoustics — Measurement of sound insulation in buildings and of building elements — Laboratory measurements of impact sound insulation of floors	Spec 29	N/A	N/A	N/A
ISO 540	2008	Hard coal and coke — Determination of ash fusibility	Spec 13	N/A	N/A	N/A
ISO 8336	1993E	Fibre-cement flat sheets	Schedule 1	Schedule 1	7.5.3, 7.5.4, 7.5.5, Schedule 1	Schedule 1
ISO 25745 Part 2	2015	Energy performance of lifts, escalators and moving walks: Energy calculation and classification for lifts (elevators)	J7D8	N/A	N/A	N/A
NASH Standard	2021	Steel Framed Construction in Bushfire Areas	N/A	H7D4	N/A	N/A
NASH Standard Part 1	2005	Residential and Low Rise Steel Framing — Design Criteria (incorporating amendments A, B and C)	B1D4	H1D6	N/A	N/A
NASH Standard Part 2	2014	Residential and Low Rise Steel Framing — Design Solutions (incorporating amendment A)	B1D4, B1D5, F1D8	H1D6	2.2.5, 6.2.1, 6.3.6, 7.5.2, 7.5.3, 7.5.4, 10.2.19, 10.2.20	N/A
NSF/ANSI/ CAN 372	2020	Drinking Water System Components - Lead Content	A5G4	A5G4	N/A	A5G4
N/A	N/A	Northern Territory Deemed to Comply Standards Manual	N/A	N/A	2.2.4	N/A
SA TS 5344	2019	Permanent labelling for Aluminium Composite Panel (ACP) products	A5G8	A5G8	N/A	A5G8
TN 61	N/A	Cement Concrete and Aggregates Australia — Technical note — Articulated walling	N/A	H1D4	N/A	N/A

Table Notes

(1) For AS/NZS ISO 717.1:

- (a) Test reports based on AS 1276—1979 and issued prior to AS/NZS 1276.1—1999 being referenced in the NCC remain valid.
- (b) The STC values in reports based on AS 1276—1979 must be considered to be equivalent to R_w values.
- (c) Test reports based on AS/NZS 1276.1 prepared after the NCC reference date for AS/NZS 1276.1—1999 must be based on that version.
- (d) Test reports based on ISO 717.1—1996 and issued prior to AS/NZS ISO 717.1—2004 being referenced in the NCC remain valid.
- (e) Reports based on AS/NZS ISO 717.1 relating to tests carried out after the NCC reference date for AS/NZS ISO 717.1—2004 must relate to the amended Standard.

(2) For AS 1562.1, tests carried out based on AS 1562.1—1992 and issued prior to AS 1562.1—2018 being referenced in the NCC remain valid. Reports relating to tests carried out after the NCC reference date for AS 1562.1 must relate to the revised Standard.

(3) For AS 1670.1, AS 1670.3 and AS 1670.4, notwithstanding A4G1(5), until the adoption of NCC 2025 the editions of the documents listed in Table 1.8 of AS 1670.1, AS 1670.3 and AS 1670.4 may be used to meet the requirements of AS 1670.1, AS 1670.3 and AS 1670.4 as applicable.

(4) For AS 2047:

- (a) Tests carried out under earlier editions of AS 2047 remain valid.
- (b) Reports based on AS 2047 relating to tests carried out after the NCC reference date for AS 2047—2014 Amendment 2 must relate to the amended Standard.

(5) For AS 3786:

- (a) Tests carried out under AS 3786—2014 Amendment 1 remain valid.
- (b) Reports based on AS 3786 relating to tests carried out after the NCC reference date for AS 3786—2014 Amendment 2 must relate to the amended Standard.

(6) Test reports based on the 2005 edition of AS/NZS 4020 will continue to be accepted until 1 May 2024. Test reports prepared after the NCC reference date for the 2018 edition of AS/NZS 4020 must be based on the 2018 edition.

(7) For AS 4586:

- (a) Test reports based on the 2004 edition of AS/NZS 4586 and issued prior to the 2013 edition of AS 4586 being referenced in the NCC remain valid.
- (b) Test reports prepared after the NCC reference date of the 2013 edition of AS 4586 must be based on that version.
- (c) For the purposes of assessing compliance, the slip-resistance classifications of V, W and X in reports based on the 2004 edition of AS/NZS 4586 may be considered to be equivalent to slip-resistance classifications of P5, P4 and P3 respectively in the 2013 edition of AS 4586.
- (d) Test reports based on Appendix D of AS 4586—2013 and issued prior to the NCC reference date for AS 4586—2013 (incorporating Amendment 1) remain valid.
- (e) Test reports based on Appendix D of AS 4586—2013 and prepared after the NCC reference date for AS 4586—2013 (incorporating Amendment 1) must be based on that version.

(8) Tests carried out based on AS/NZS 2918—2001 and issued prior to AS/NZS 2918—2018 being referenced in the NCC remain valid. Reports relating to tests carried out after the NCC reference date for AS/NZS 2918 must relate to the revised Standard.

(9) For AS 2699 Parts 1 and 3:

- (a) For AS 2699.1, the 2000 edition has been retained for a transitional period ending on 30 April 2025.
- (b) For AS 2699.3, the 2002 edition has been retained for a transitional period ending on 30 April 2025.

(10) For AS 1397, the 2011 edition has been retained for a transitional period ending on 31 August 2023.

(11) For AS/NZS 3500.3, the 2018 edition has been retained for a transitional period ending on 31 August 2023.



NSW Table 1 SCHEDULE OF REFERENCED DOCUMENTS

No.	Date	Title	Volume One	Volume Two	Housing Provisions
AS/NZS 1596	2014	The Storage and Handling of LP Gas	NSW I4D61	N/A	N/A
AS 1603	2018	Automatic fire detection and alarm systems — Heat alarms (See Note 1)	N/A	N/A	NSW 9.5.1
AS 2001 Part 5.4	2005	Methods of test for textiles: Dimensional washing and drying procedures for textile testing		N/A	N/A
AS/NZS 3000	2018	Electrical installations (known as the Australian/New Zealand Wiring Rules)	NSW I5D14	N/A	N/A
AS/NZS 3002	2008	Electrical installations — Shows and carnivals	NSW I5D14	N/A	N/A
SSL	N/A	Appraisal Specification FAS 102	NSW I4D46	N/A	N/A
NSW Legislation	1979	Environmental Planning and Assessment Act	NSW G5D3, NSW Schedule 1	NSW H7D4, NSW Schedule 1	N/A
NSW Legislation	2021	Environment Planning and Assessment Regulation	NSW I4D1, NSW I4D46, NSW Schedule 1	NSW Schedule 1	NSW Schedule 1
NSW Legislation	2007	Liquor Act	NSW Schedule 1	NSW Schedule 1	NSW Schedule 1
NSW Legislation	1997	Rural Fires Act	NSW G5D3, NSW G5D4, NSW Schedule 1	NSW Schedule 1	NSW Schedule 1
NSW Legislation	N/A	Standard Instrument—Principal Local Environmental Plan	NSW Schedule 1	NSW Schedule 1	NSW Schedule 1
NSW Legislation	1992	Swimming Pools Act	NSW G1P2, NSW G1D2, NSW Schedule 1	NSW H7P1, NSW H7D2, NSW Schedule 1	NSW Schedule 1
NSW Legislation	2018	Swimming Pools Regulation	NSW G1P2, NSW G1D2	NSW H7P1, NSW H7D2	N/A
NSW Legislation	2011	Work Health and Safety Act	NSW G1D5	N/A	N/A

Table Notes

(1) Heat alarms complying with AS 1603.3 must be a class type A1 or A2.



**APPENDIX C – AFAC ELECTRIC VEHICLES (EV) AND EV CHARGING
EQUIPMENT IN THE BUILT ENVIRONMENT**



**Electric Vehicles (EV)
and EV charging
equipment in the built
environment**



PROCEDURAL

POSITION

Version 1.5
2 October 2023
Doctrine ID: 3098



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Disclaimer

This document has been developed from consultation and research between the Australasian Fire and Emergency Service Authorities Council Limited (AFAC), its members and stakeholders. It is intended to address matters relevant to fire, land management and emergency services across Australia, New Zealand and the Pacific region.

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Review period

This AFAC position should be reviewed by the doctrine owner by November, 2025.



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About AFAC and AFAC Doctrine

AFAC

The Australasian Fire and Emergency Service Authorities Council (AFAC) is the Australian and New Zealand National Council for fire, emergency services and land management. It is a collaborative network of fire, emergency services and land management agencies that supports the sector to make communities safer and more resilient.

AFAC Doctrine

AFAC develops doctrine to support the practice of emergency management. The information in doctrine publications is evidence-based and drawn from academic research and the collective expert knowledge of member agencies. Doctrine is regularly reviewed and represents the official AFAC view on a range of topics.

Doctrine does not mandate action; rather, it sets aspirational measures. Publishing nationally agreed views, shared approaches and common terminology enhances cooperation and collaboration within and between agencies and jurisdictions.

Types of AFAC Doctrine

AFAC Doctrine is classified as follows:

Capstone doctrine – includes publications, such as 'strategic intents', that are high-level accounts of the concepts of emergency management operations and service delivery. They describe the principles of what is practical, realistic and possible in terms of protecting life, property and the environment.

Fundamental doctrine – includes 'positions', which AFAC members are expected to support, as well as 'approaches' and some 'frameworks'. Fundamental doctrine may become agency or jurisdictional policy on a matter if adopted by individual services or jurisdictions.

Procedural doctrine – includes 'guidelines', some 'frameworks', and 'specifications'. AFAC members are expected to be aware of procedural doctrine. A guideline is an advisable course of action; a framework provides a linking of elements to create a supporting structure to a system, and specifications are a detailed description of a precise requirement to do something or build something.

Technical doctrine – includes 'technical notes', 'training material' and the *Australasian Inter-Service Incident Management System (AIIMS)*. Technical doctrine provides guidance of a technical nature: the how to do something, or the technical meaning relative to a situation.



About this document

This publication is a Procedural Position. At the time of publishing it is supported by the following guidelines (procedural doctrine):

- *AFAC Guideline for incidents involving electric vehicles*

Source of authority

Approved by AFAC Council on 24 October, 2023.

Purpose

This position is to state AFAC Member agencies' approach towards electric vehicles (EVs) and the installation of EV charging equipment in the built environment in relation to fire prevention and preparedness.

This position seeks to identify and inform on the risks to the community and emergency responders in and around EVs and EV charging infrastructure in the built environment.

As stated in Principle 2 of AFAC's *Position on Fire Safety in the Built Environment*, fire agencies have a role in the regulatory chain of responsibility to minimise fire risk in the built environment.

Scope

The aim of this position is to highlight issues and provide guidance relating to EVs within the built environment, and the planning and design for installation of EV charging facilities.

It excludes the environmental, social and economic issues associated with EVs and charging infrastructure.

It does not provide any judgments on the values or otherwise of EVs and EV charging infrastructure. While the focus of this position is on Class 2-9 buildings, the considerations may also be applicable to Classes 1 and 10.

Statement of engagement

This position was developed collaboratively by the AFAC Built Environment and Planning Technical Group and the AFAC Alternative and Renewable Energy Technologies Working Group and in consultation with the AFAC Fire Engineering Network.

Audience

This position is intended for AFAC Member agencies and all public and private stakeholder groups, such as property and EV owners, developers, building designers, engineers, urban planners, legislative and regulatory consent authorities, and the insurance industry.

Definitions, acronyms and key terms

Acronyms

AC – alternating current

ARET- AFAC Alternative and Renewable Energy Technologies Working Group

BESS – battery energy storage system

BEPTG – AFAC Built Environment and Planning Technical Group

DC – direct current

ESS – energy storage systems

EV – electric vehicle (including fully electric, HEV, PHEV and FCEV)

EVSE – electric vehicle supply equipment

FCEV- fuel cell electric vehicle

FRL – fire resistance level

HEV – hybrid electric vehicle

HV – high voltage

ICE – internal combustion engine

NCC – National Construction Code

PHEV – plug in hybrid electric vehicle



Definitions and key terms

Applications for building/ development	Building approval means the final certification that is required before building activity can commence, where building activity includes construction of new buildings, alterations and additions to existing buildings, the relocation of buildings between sites and other structural work. Note: In some jurisdictions this may also be referred to as the 'building permit', 'building consent', 'construction certificate', or 'building authorisation' (Building Confidence Glossary, ABCB, 2021)
Causes of cell failure	Physical (mechanical) abuse Puncture, dent, crush or impact. Thermal abuse Prolonged heat source above 50°C. Can also include cold temperatures or cycling between extreme temperatures. Overcharge failure of the battery management system, where there is differing voltages across cells in modules/batteries, when too many lithium-ions are removed from the cathode, leading to decomposition of the cathode materials, releasing oxygen and thermal energy. Rapid discharge Failure of the battery management system, where there is differing voltages across cells in modules/batteries caused by releasing energy too quickly. Internal cell failure Poor cell/pack design, resulting in electrochemical or mechanical failure. Impurities in the cell. Metal deposits can form on the battery's anode creating dendrite growth structures that look like horizontal stalactites.
Deflagration	Propagation of a combustion zone at a velocity that is less than the speed of sound in the unreacted medium. (NFPA 921, 2021)
Electric vehicle	Cars or other vehicles with motors that are powered by electricity rather than liquid fuels. (ARENA, 2022). Note that EV, HEV, PHEV and FCEV are referred to throughout this document as 'EV'.
Electric vehicle charging equipment	Electric vehicle charging equipment also known as electric vehicle supply equipment (EVSE) is a power supply device used to recharge the battery in an electric vehicle. Also known as charging stations and charging points.
Fire resistance level	The grading periods in minutes determined against the criteria: structural adequacy, integrity, and insulation.
Flammable limits	The upper or lower concentration limit at a specified temperature and pressure of a flammable gas or a vapor of an ignitable liquid and air, expressed as a percentage of fuel by volume that can be ignited. (NFPA 921, 2021)
Light electric vehicle	Light electric vehicles are defined as battery, fuel cell, or hybrid-powered 1, 2-or-3-wheel vehicles generally weighing less than 200 pounds (100 kg). Of this group, electric bicycles (e-bikes) are most common. (LEVA, 2009)
Secondary ignition	A secondary ignition is a recurrent or new failure in a cell occurring in a damaged battery due to the initial failure event. Secondary ignition incidents can occur hours, days, or weeks after the initial failure and without warning.
Stranded energy	As with most electrical equipment there is a shock hazard present, but what is unique about energy storage systems (ESS) is that often, even after being involved in a fire, there is still energy within the ESS. This is difficult to discharge since the terminals are often damaged and presents a hazard to those performing overhaul after a fire (NFPA, 2022). Stranded energy can also cause secondary ignition of the fire hours or even days later.
Thermal runaway	Thermal runaway is a term used for the rapid uncontrolled release of heat energy from a battery cell; it is a condition when a battery creates more heat than it can effectively dissipate. Thermal runaway in a single cell can result in a chain reaction that heats up neighbouring cells. As this process continues, it can result in a battery fire or explosion. This can often be the ignition source for larger battery fires. (NFPA, 2022)
Vapour cloud explosion	The explosion resulting from the ignition of a cloud of flammable vapor, gas or mist in which flame speeds accelerate to sufficiently high velocities to produce significant overpressures. (FM Global, 2019) Most batteries create toxic and flammable gases when they undergo thermal runaway. If the gases do not ignite before the lower explosive limit is reached, it can lead to the creation of an explosive atmosphere inside of the ESS room or container. (NFPA, 2022)



Introduction

This position informs and provides awareness to AFAC Member agencies and stakeholder representatives of the potential risks and hazards presented by electric vehicles (EVs) and associated EV charging infrastructure.

EV manufacturers use a variety of battery types to store energy. The most common type of battery used is a lithium-ion (or Li-ion) battery, a type of rechargeable battery in which lithium ions move from the negative electrode (anode) through an electrolyte to the positive electrode (cathode) during discharge, and back when charging.

The presence of EV or plug in hybrid EVs (HEV or PHEV) across Australia and New Zealand is increasing significantly. There are several industry, societal and governmental initiatives that are driving a transition from internal combustion engine-powered vehicles (ICE) to electrically powered vehicles.

Note: Fully electric vehicles, HEV, PHEV and FCEV are referred to throughout this document as 'EV'.

The competition in the battery energy storage system (BESS) market revolves around the intellectual property associated with battery chemistries, i.e. in the electrolyte and materials used for the anode and cathode.

This represents an increase in the varying levels of hazards and risks faced by first responders and emergency service personnel when attending incidents involving EVs.

Background

Hazards with electric vehicles

Whilst failure events are currently reported to be occurring at a low frequency, the potential risks that can eventuate from a thermal runaway event may be of high consequence.

The increase in the uptake of EVs is anticipated to incrementally impact the frequency of failure events.

A failure event within an EV battery (such as mechanical, thermal abuse, rapid discharge, or internal cell failure) has the potential to lead to a thermal runaway event within the EV battery, which may pose significant challenges for firefighters in the management of the incident.

The types of hazards that may be represented at a failure event include but are not restricted to the following:

- Potential for the fire event to impact on the structural integrity of the structure.
- Exposure to high voltage direct current (DC) and alternating current (AC) electricity.
- Toxic and combustible vapour production.

- Potential for vapour cloud explosion.
- Potential for a rapid rate of fire spread.
- Significant fire duration (four or more hours) and protracted incident.
- Potential for secondary ignition.
- Potential for stranded electrical energy.
- Potential for contaminated run-off from firefighting water streams.
- Post-fire management of potentially hazardous waste material.

It is recommended that stakeholder groups are informed on the potential hazards and liaise with the relevant fire authority to discuss suitable management or intervention strategies.

AFAC Position

AFAC continues to seek and consider the available knowledge and information on EVs and EV charging facilities to inform fire authorities' preparedness and response to incidents involving these systems when reviewing the suitability of existing legislative requirements.

AFAC recommends that when reviewing building approval applications, the building surveyor/certifier implements Clause E1D17 and Clause E2D21 of the National Construction Code (NCC) 2022 Volume One.

Fire authorities will review design solutions in terms of their community safety obligations and operational response requirements relating to expected activities and the ability to satisfactorily interact with the installed systems.

Electric vehicles and related infrastructure as a special hazard

AFAC considers the implementation of NCC 2022 Clauses E1D17 and E2D21 as appropriate mechanisms by which to document and address any requirements for proposed or associated installations of EVs and EV charging equipment within the built environment, in consideration of their assessment of the relevant NCC performance requirements.

E1D17 Provision for special hazards

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 firefighting purposes.

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E2D21 Provision for special hazards

Additional smoke hazard management measures may be necessary due to the—

- (a) special characteristics of the building; or
- (b) special function or use of the building; or
- (c) special type or quantity of materials stored, displayed or used in a building; or
- (d) special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.

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Consultation with fire authorities

AFAC advocates for appropriate engagement, as early in the design phase as possible, with the relevant fire authorities. This will allow all parties to understand the risks and improve consultation in the development of acceptable solutions utilising fire engineering principles. Engaging with fire authorities early will potentially save time and money later in the process.

In alignment with recommendations of the Shergold-Weir Building Confidence Report, AFAC recommends that all relevant considerations be made during the concept and design phase of a development project, enabling a tailored approach to the specific characteristics of the proposed development.

New and existing buildings

AFAC recommends the approach taken to consider the hazards and reduce risk to the community and emergency services personnel when installing EV charging infrastructure should be the same for both new and existing buildings. AFAC recognises that compliance with the relevant electrical regulations does not consider fire safety risks and operational needs of fire authorities, and therefore recommends engaging with the relevant fire authority before installing systems to existing buildings.

Considerations for EV and EV charging equipment within the built environment

AFAC recognises that all buildings are unique. The considerations below should be discussed with relevant stakeholders, including the fire authorities, during the planning and design phase for the introduction of EVs within the built environment.

Considerations include, but are not limited to:

- Establishing that the appropriate fire resistance level (FRL) is applied to building material, elements and systems.
- Suitability of fire safety systems and their location in proximity to the risk, including fire hydrants, fire detection systems, occupant warning systems, automatic fire sprinkler systems, and ventilation and smoke hazard management systems.
- The adequacy of vehicle separation to prevent fire spread with respect to directional flame jetting in EV fires. This includes special considerations for vehicle access in stacked parking arrangements or automatic vehicle parking systems.
- Intervention capabilities of the local fire authority.
- Potential for contaminated firewater run-off.

Additional considerations for electric vehicle charging equipment within the built environment

Where EV charging equipment is installed, the following considerations should be discussed with relevant stakeholders, including the fire authorities, during the planning and design phase for the implementation of EV charging equipment.

- Location of EV charging stations and the proximity to other vehicles, exits, other fire safety systems, building utilities and critical infrastructure. Note: open air or external charging points should always be considered before installation of internal charging points.
- Provision of remote emergency shutdown controls and/or automatic shutdown for EV charging stations.
- Vehicle impact protection (e.g. bollards) for EV charging stations.
- Application of any best practice standards for EV charging equipment.
- Implementation of a regular maintenance schedule for EV charging equipment.

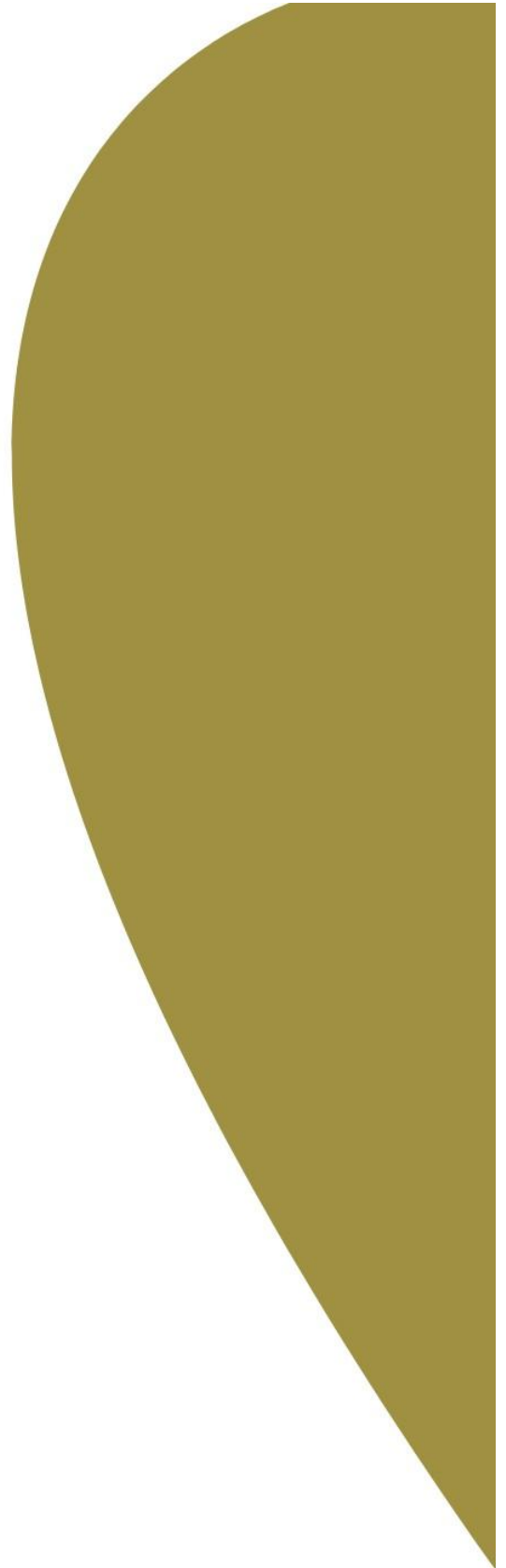
Light electric vehicles

AFAC also recognises the risks posed by light EVs such as electric bikes, scooters and mobility scooters and recommends that a separate and dedicated area is provided for charging of these devices and relevant similar considerations for EVs are also applied.



Supporting discussion

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- National Construction Code 2022 Volume One, <https://ncc.abcb.gov.au/editions-national-construction-code>, retrieved 7 October 2022
- National Fire Protection Association (NFPA) 921 *Guide for Fire and Explosion Investigations*, 2021
- National Fire Protection Association (NFPA) *Energy Storage Systems Fact Sheet*, <https://www.nfpa.org/~media/Files/Code%20or%20topic%20fact%20sheets/ESSFactSheet.pdf>, retrieved 7 October 2022
- National Fire Protection Association (NFPA) *Stranded Energy within Lithium-Ion Batteries Project Summary*, 2022
- South Australia Metropolitan Fire Service Position Statement EVs & EV Charging Stations in Buildings v1.0
- State of Queensland (Queensland Fire and Emergency Services), Position Statement Ver 04/2022 Electric vehicle charging stations and electric vehicle carparks
- Standards Australia, AS/NZS 3000:2018 Electrical installations (known as the Australian/New Zealand Wiring Rules): Appendix P, 2018, Standards Australia





APPENDIX D – REFERENCED DOCUMENTATION

The following documentation was used in the preparation of this report:

Drawing No.	Title	Rev.	Project No.	Date	Drawn By
DA 090	Basement 04 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 091	Basement 03 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 092	Basement 02 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 093	Basement 01 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 100	Ground Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 101	Level 01 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 102	Level 02-03 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 103	Level 04 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 104	Level 05-07 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 105	Level 08 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 106	Level 09 Floor Plan	A	24029	12.02.2026	BKA Architecture
DA 107	Roof Plan	A	24029	12.02.2026	BKA Architecture
DA 200	Streetscape Elevation	A	24029	12.02.2026	BKA Architecture
DA 201	North Elevation – Maroubra Road	A	24029	12.02.2026	BKA Architecture
DA 202	East Elevation	A	24029	12.02.2026	BKA Architecture
DA 203	South Elevation – Maroubra Lane	A	24029	12.02.2026	BKA Architecture
DA 204	West Elevation – Garden Street	A	24029	12.02.2026	BKA Architecture
DA 300	Section 1	A	24029	12.02.2026	BKA Architecture
DA 301	Section 2	A	24029	12.02.2026	BKA Architecture
DA 302	Section 3	A	24029	12.02.2026	BKA Architecture
DA 303	Section 4	A	24029	12.02.2026	BKA Architecture
DA 304	Section 5	A	24029	12.02.2026	BKA Architecture