



DESIGN CONFIDENCE

CO-OP Studio
BCA Design Assessment Report

DA Report

Tamworth Regional Aquatic Centre
and Centre of Sport and Health,
Greg Norman Drive,
Tamworth, NSW 2340

Project: Tamworth Regional Aquatic Centre and Centre of Sport and Health
Greg Norman Drive, Tamworth, NSW 2340
Document Type: BCA Design Assessment Report
Our Reference: P223_485-2 (BCA) RD

The following report register documents the development and issue of this and each subsequent report(s) undertaken by Design Confidence (Sydney) Pty Ltd.

The technical and intellectual content contained herein remain the property of Design Confidence (Sydney) Pty Ltd and have been prepared and may only be used for the development / buildings being the subject of this report.

Revision History—

OUR REFERENCE	REMARKS	ISSUE DATE
P223_485-1 (BCA) RD	DRAFT report issued for review and comment	17 May 2024
P223_485-2 (BCA) RD	FINAL report issued to client	25 June 2024

CONTENTS

EXECUTIVE SUMMARY	4
1.0 INTRODUCTION.....	5
1.1 General.....	5
1.2 Purpose of report	5
1.3 Documentation Provided for Assessment	5
1.4 Limitations	5
1.5 Report Exclusions.....	5
1.6 Relevant Legislative Framework.....	6
2.0 DEVELOPMENT DESCRIPTION	7
2.1 General.....	7
2.2 Building Description	8
2.3 BCA Assessment – Interpretation Notes.....	9
2.4 Sanitary Facilities Assessment.....	9
2.5 Draft Fire Safety Measures.....	10
3.0 BCA ASSESSMENT SUMMARY	11
4.0 BCA DETAILED ASSESSMENT	1
Section G -Minor structures and components	26
5.0 CONCLUSION	28
APPENDIX 1 – DOCUMENTATION PROVIDED FOR ASSESSMENT	29
APPENDIX 2 – ABBREVIATIONS & DEFINITIONS	30
APPENDIX 3 – FRLS	33

EXECUTIVE SUMMARY

This BCA Design Assessment Report has been prepared by Design Confidence at the request of CO-OP Studio and relates to the construction of a major aquatic and sports health centre development located at Greg Norman Drive, Tamworth, NSW 2340.

Based upon our assessment to date we are of the opinion that the subject development is capable of achieving compliance with the performance provisions of the BCA, either by complying with the prescriptive requirements or via a performance-based approach.

In addition to undertaking a detailed assessment of the design against the prescriptive requirements of the BCA a preliminary performance-based assessment has also been undertaken.

The table below lists scenarios where we believe the adoption of a performance design may add value to development in-lieu of complying with the prescriptive (DtS) provisions—

ITEM	PROPOSED PERFORMANCE SOLUTION	BCA DTS CLAUSE	PERFORMANCE REQUIREMENT
FIRE SAFETY			
1.	Justify oversized fire compartment volume of 53590 m ² in lieu of 48000 m ² in a Type A building.	C3D3	C1P1 & C1P2
2.	Justify extended travel distances: (a) To an exit of up to 52 m in lieu of 40 m throughout the building. (b) To a point of choice of up to 25 m in lieu of 20 m throughout the building.	D2D5	DP4 & EP2.2
3.	Justify extended distance between exits of 105 m in lieu of 60 m throughout the building.	D2D6	DP4 & EP2.2
4.	Justify the departure from the hydrant standard AS2419.1 Booster assembly not adjacent to the principal vehicular access to the site.	E1D2	E1P3
Non-Fire Safety			
5.	Internal swimming pool performance solution report to be prepared by an appropriate consultant (i.e civil/ stormwater) demonstrating compliance with the performance requirements G1P1.	G1D1	G1P1

The implementation of a performance-based approach in lieu of compliance with the deemed-to-satisfy (DtS) provisions shall be in consultation with all relevant stakeholders and is subject to the approval of the certifying authority.

The adoption of performance solutions for fire safety matters may be subject to consultation with the NSW Fire Brigade as part of the Construction Certificate process under Section 25 - 29 of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021.

1.0 INTRODUCTION

1.1 General

This report has been prepared at the request of CO-OP Studio and relates to the proposed construction of a major aquatic and sports health centre located at Greg Norman Drive, Tamworth, NSW 2340.

1.2 Purpose of report

The purpose of this report is to identify the extent to which the architectural design documentation complies with the prescriptive provisions of the NCC 2022 Volume One - Building Code of Australia, thereby after referred to as the BCA.

1.3 Documentation Provided for Assessment

This assessment is based upon the Architectural documentation prepared by CO-OP Studio listed within **Appendix 1**.

1.4 Limitations

In interpreting the report, the following limitations shall be noted –

- (a) BCA requirements for existing buildings located on the allotment;
- (b) This report is based upon, and limited to, the information depicted in the documentation provided for assessment, and does not make any assumptions regarding 'design intention' or the like;
- (c) This assessment does not contain comments regarding detailed design issues such as (but not limited to): slip resistance, handrail design, door schedule and door hardware specification and lift specification.
- (d) The list of fire safety measures in Section 2.7 is not a proposed fire safety schedule within the context of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021; and
- (e) This report is not a regulated design, as defined by the Design Building Practitioners Regulations 2021.

1.5 Report Exclusions

It is conveyed that this report should not be construed to infer that an assessment for compliance with the following has been undertaken –

- (a) Work Health & Safety Act (2011) and Regulations (2017);
- (b) WorkCover Authority requirements;
- (c) Structural and Services Design Documentation;

- (d) The individual requirements of service authorities (i.e. Telecommunication Carriers, Sydney Water, Endeavour Energy);
- (e) Any conditions imposed by the Consent Authority;
- (f) Any conditions imposed by the Principal Certifying Authority;
- (g) Design and Building Practitioners Act (2020) and Regulations (2021);
- (h) Adaptable Housing (AS4299-1995);
- (i) Liveable Housing Guidelines;
- (j) BASIX certificate;
- (k) The Disability Discrimination Act (DDA) 1992;
- (l) The accessibility requirements of the BCA, as contained within Part D4 and F4D5 of the BCA; and
- (m) The energy efficiency provisions of the BCA, as contained with Section J of the BCA.

1.6 Relevant Legislative Framework

New building works –

Sub-section 19(1)(c) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulations 2021 requires that all works forming part of the Construction Certification ('new works') comply with the current requirements of the BCA.

All new works proposed in the architectural documentation are required to comply but existing features of an existing building need not comply with the BCA unless specified under different parts of the legislation e.g. change of building use or consent authority may require upgrade of buildings.

2.2 Building Description

The proposed works will comprise of construction of a major aquatic and sports health centre.

Table 2.2 (a) – Building description

DESCRIPTION		
Building Classification:	Assembly Building	Class 9b
Storeys Contained	One (1)	
Rise in Storeys	One (1)	
Type of Construction	Type A	
Effective Height	<12m	
Largest Fire Compartment Size (Whole building)	7660 m ² 53,590 m ³	Exceeds Limitation (Performance solution to be sought)
Climate Zone	Zone 4	
Importance Level (AS1170.4)	Level 3	(Structural engineer to confirm)

Table 2.2 (b) – Floor areas and population summary

BUILDING OR PART	USE	FLOOR AREA (m ²)	POPULATION
Pool Hall	Swimming pool	1252 m ²	30 Participants
Warm Water Pool	Swimming pool	300 m ²	10 Participants
Pool Spectators	Spectator area	226 m ²	605 on event day
Kitchen	Kitchen	33 m ²	6
Staff Room/Admin	Office	94 m ²	14
Café	Café (patrons)	71 m ²	-
Gym (including Program rooms, Sports science)	Gymnasium	1148 m ²	140
Consult rooms/rehab	Office	95 m ²	10
Creche	Early childhood centre	151 m ²	38
NICSH Admin and Teaching & study	Office	482 m ²	63
Total	-	-	916

Notes –

1. The above populations for consult rooms/rehab and creche have been based on the floor areas and calculations in accordance with Table D2D18 of the BCA for each use. The remaining space population have been provided by client.
2. They café population has not been considered in addition to the pool spectators.
3. The floor areas are approximate and shall not be taken as accurate.

2.3 BCA Assessment – Interpretation Notes

To provide the reader with additional context, the following information regarding assessment methodology used in this assessment is provided below—

- (a) Each room on the eastern side of the building has been treated as a separate sole-occupancy unit.
- (b) Cars, cabinets and loose furniture are not considered to be permanently fixed and not intervening in the path of travel;
- (c) For an assessment of the BCA accessibility provisions as principally contained in Parts D4, E3D8, F4D5 and F4D6, refer to the Access Design Assessment Report prepared by Design Confidence

Several acronyms and abbreviations are used throughout this report, refer to **Appendix 2** for clarification.

2.4 Sanitary Facilities Assessment

Table 2.4 (a) – Sanitary Calculations for Indoor Aquatics

Table 2.4 (d) Summary Calculations for Indoor Aquatics										
Population No.	Required				Provided			Difference		
	WC	Urinals	Basins	WC	Urinals	Basins	WC	Urinals	Basins	
Male Total	323	3	6	5	20	0	12	17	-6	7
Female Total	323	8	-	5	20	-	12	12	-	7

Table 2.4 (b) – Sanitary Calculations for Dry Side

Table 2.14 (b) Sanitary Calculations for Dry side										
Population No.	Required				Provided			Difference		
	WC	Urinals	Basins	WC	Urinals	Basins	WC	Urinals	Basins	
Male Total	117	7	9	9	10	6	7	3	-3	-2
Female Total	117	11	-	9	11	-	7	0	-	-2

Notes –

1. An exact 50/50% split between Male and Females have been applied, please advise if this is not suitable for the proposed use;
2. An accessible unisex facility (accessible toilet) comprising of one shower, one closet pan and one wash basin has been counted once for each sex (F4D3);
3. A urinal may be a closet pan used in place of a urinal i.e. a closet pan may be treated as a urinal but not vice versa (F4D9);

2.5 Draft Fire Safety Measures

The following is a list of fire safety measures required for the building based on the DtS provisions of the BCA only. The list is subject to change as the design progresses and does not include any Performance Solution / Fire Engineering Report measures or any additional measures.

Table 2.5 – Fire safety measures required by DtS provisions

MEASURE	STANDARD OF PERFORMANCE
Automatic Fail-Safe Devices	BCA 2022 Clause D3D24
Automatic Fire Detection and Alarm System	BCA 2022 Clause E2D3 & Spec 20 AS 1670.1-2018
Emergency Lighting	BCA 2022 Clause E4D2, E4D3 & E4D4 AS 2293.1-2018
Exit And Directional Signage	BCA 2022 Clause E4D5, E4D6 & E4D8, Spec 25 AS 2293.1-2018
Emergency Warning Intercom System	BCA 2022 Clause E4D9, AS1680.4
Fire (& Smoke) Dampers	BCA 2022 Clause E2D3, C4D13, , Spec. 20, Spec. 11, Spec. 31 AS/NZS 1668.1-2015, AS 1682.1-2015, AS 1682.2-2015, Manufacturer's specifications
Fire Doors	BCA 2022 Clause C3D13, C3D14 & Spec. 12, AS 1905.1-2015
Fire Hose Reel Systems	BCA 2022 Clause E1D3 AS 2441-2005
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1-2021
Fire Seals (Protecting Openings in Fire-Resisting Components Of The Building)	BCA 2022 Clause C4D15, Spec. 13 AS 4072.1-2005, AS 1530.4-2014, Manufacturer's specifications
Lightweight Construction	BCA 2022 Clause C2D9, Spec. 6 Manufacturer's specifications
Mechanical Air Handling Systems (Automatic shutdown)	BCA 2022 Clause E2D16, Spec. 20 AS/NZS 1668.1-2015
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444-2001
Power Operated Doors (Exits)	BCA 2022 Clause D3D24, D3D26 & D3D28 Manufacturer's specifications
Warning And Operational Signs	BCA 2022 Clause, D3D28 Section 108 & 109 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021
Fire Engineering Report Measure (TBC)	Fire Engineering Report (TBC)

3.0 BCA ASSESSMENT SUMMARY

3.1 Interpretation

The following table summarises the compliance status of the architectural design in terms of each applicable prescriptive provision of the BCA and indicates a capability for compliance with the BCA. The following is an explanation of the terminology used in the summary checklist:

- (a) N/A: Not Applicable. This clause is not applicable to the proposed design
- (b) Complies: The proposed design complies with the relevant provisions of the BCA.
- (c) PS: Performance Solution. The proposed design can comply with the relevant Performance Requirements of the BCA via a Performance Solution.
- (d) Does not comply: The proposed design does not comply with the BCA and requires amendment or investigations into the feasibility of a Performance Solution.
- (e) Design Detail: The proposed design does not provide enough information to determine compliance. Compliance will be determined as the design develops. A detailed analysis and commentary are provided within **Section 4.0** of this report.
- (f) Capable of compliance: Detailed design issues which are to be developed and verified at CC stage.

Table 3 BCA assessment summary checklist

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
Section B – Structure				
Part B1 - Structural provisions				
B1D2 Resistance to actions				✓
B1D3 Determination of individual actions				✓
B1D4 Determination of structural resistance of materials and forms of construction				✓
B1D6 Construction of buildings in flood hazard areas				✓
Section C – Fire Resistance				
Part C2 - Fire Resistance and Stability				
C2D2 Type of construction required	✓			
C2D3 Calculation of rise in storeys	N/A			
C2D4 Building of Multiple Classifications	N/A			
C2D5 Mixed Types of Construction	N/A			
C2D6 Two Storeys Class 2, 3, or 9c Building	N/A			
C2D7 Class 4 Parts of Buildings	N/A			
C2D8 Open spectator stands and indoor sports stadiums	N/A			

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
C2D9 Lightweight construction				✓
C2D10 Non-combustible building elements			✓	
C2D11 Fire hazard properties				✓
C2D12 Performance of external walls in fire	N/A			
C2D13 Fire-protected timber: Concession	N/A			
C2D14 Ancillary elements				✓
C2D15 Fixing of bonded laminated cladding panels				✓
Part C3 - Compartmentation and separation				
C3D3 General floor area and volume limitations			PS	
C3D4 Large isolated buildings	N/A			
C3D5 Requirements for open spaces and vehicular access	N/A			
C3D6 Class 9 buildings	N/A			
C3D7 Vertical separation of openings in external walls	N/A			
C3D8 Separation by fire walls	N/A			
C3D9 Separation of classifications in the same storey	N/A			
C3D10 Separation of classifications in different storeys	N/A			
C3D11 Separation of lift shafts	N/A			
C3D12 Stairways and lifts in one shaft	N/A			
C3D13 Separation of equipment				✓
C3D14 Electricity supply system				✓
C3D15 Public corridors in Class 2 and 3 buildings	N/A			
Part C4 - Protection of openings				
C4D3 Protection of openings in external walls	N/A			
C4D4 Separation of external walls and associated openings in different fire compartments	N/A			
C4D5 Acceptable methods of protection	N/A			
C4D6 Doorways in fire walls	N/A			
C4D7 Sliding fire doors	N/A			
C4D8 Protection of doorways in horizontal exits	N/A			
C4D9 Openings in fire-isolated exits	N/A			
C4D10 Service penetrations in fire-isolated exits	N/A			
C4D11 Openings in fire-isolated lift shafts	N/A			
C4D12 Bounding construction: Class 2 and 3 buildings and Class 4 parts	N/A			

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
C4D13 Openings in floors and ceilings for services	N/A			
C4D14 Openings in shafts	N/A			
C4D15 Openings for service installations	N/A			
C4D16 Construction joints				✓
C4D17 Columns protected with lightweight construction to achieve an FRL				✓
Section D – Access and Egress				
Part D2 - Provisions for escape				
D2D3 Number of exits required	✓			
D2D4 When fire-isolated stairways and ramps are required	N/A			
D2D5 Exit travel distances			PS	
D2D6 Distance between alternative exits			PS	
D2D7 Height of exits, paths of travel to exits and doorways				✓
D2D8 Width of exits and paths of travel to exits	✓			
D2D9 Width of doorways in exits or paths of travel to exits	✓			
D2D10 Exit width not to diminish in direction of travel	✓			
D2D11 Determination and measurement of exits and paths of travel to exits	N/A			
D2D12 Travel via fire-isolated exits	N/A			
D2D13 External stairways or ramps in lieu of fire-isolated exits	N/A			
D2D14 Travel by non-fire-isolated stairways or ramps	N/A			
D2D15 Discharge from exits				✓
D2D16 Horizontal exits	N/A			
D2D17 Non-required stairways, ramps or escalators	N/A			
D2D21 Plant rooms, lift machine rooms and electricity network substations: Concession				✓
D2D22 Access to lift pits	N/A			
D2D23 Egress from primary schools	N/A			
Part D3 - Construction of exits				
D3D3 Fire-isolated stairways and ramps	N/A			
D3D4 Non-fire-isolated stairways and ramps	N/A			
D3D5 Separation of rising and descending stair flights	N/A			
D3D6 Open access ramps and balconies	N/A			

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
D3D7 Smoke lobbies	N/A			
D3D8 Installations in exits and paths of travel				✓
D3D9 Enclosure of space under stairs and ramps	N/A			
D3D10 Width of required stairways and ramps	N/A			
D3D11 Pedestrian ramps	N/A			
D3D12 Fire-isolated passageways	N/A			
D3D13 Roof as open space	N/A			
D3D14 Goings and risers	N/A			
D3D15 Landings	N/A			
D3D16 Thresholds				✓
D3D17 Barriers to prevent falls				✓
D3D18 Height of barriers				✓
D3D19 Openings in barriers				✓
D3D20 Barrier climbability	N/A			
D3D21 Wire barriers	N/A			
D3D22 Handrails	N/A			
D3D23 Fixed platforms, walkways, stairways and ladders				✓
D3D24 Doorways and doors				✓
D3D25 Swinging doors	✓			
D3D26 Operation of latch				✓
D3D27 Re-entry from fire-isolated exits	N/A			
D3D28 Signs on doors				✓
D3D29 Protection of openable windows	N/A			
D3D30 Timber stairways: Concession	N/A			

Section E – Services and Equipment

Part E1 – Fire fighting equipment

E1D2 Fire hydrants			PS	
E1D3 Fire hose reels				✓
E1D4 Sprinklers	N/A			
E1D5 Where sprinklers are required: all classifications	N/A			
E1D6 Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	N/A			
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			

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
E1D9 Where sprinklers are required: Class 7a building, other than an open-deck carpark	N/A			
E1D10 Where sprinklers are required: Class 9a health-care building used as a residential care building, Class 9c buildings	N/A			
E1D11 Where sprinklers are required: Class 9b buildings	N/A			
E1D12 Where sprinklers are required: additional requirements	N/A			
E1D13 Where sprinklers are required: occupancies of excessive hazard	N/A			
E1D14 Portable fire extinguishers				✓
E1D15 Fire control centres	N/A			
E1D16 Fire precautions during construction	N/A			
E1D17 Provisions for special hazards	N/A			
Part E2 - Smoke hazard management				
E2D3 General requirements				✓
E2D4 Fire-isolated exits	N/A			
E2D5 Buildings more than 25 m in effective height: Class 2 and 3 buildings and Class 4 part of a building	N/A			
E2D6 Buildings more than 25 m in effective height: Class 5, 6, 7b, 8 or 9b buildings	N/A			
E2D7 Buildings more than 25 m in effective height: Class 9a buildings	N/A			
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				✓
NSW 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	N/A			
E2D13 Basements (other than Class 7a buildings)	N/A			
E2D14 Class 6 buildings – in fire compartments more than 2000 m 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 2000 m ² : Class 6 building (containing an enclosed common walkway or mall)	N/A			

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
NSW E2D16	Class 9b – assembly buildings: all			PS	
NSW E2D17	Class 9b – assembly buildings: Night Clubs, discotheques and the like	N/A			
NSW E2D18	Class 9b – assembly buildings: exhibition halls, museums and art galleries	N/A			
NSW E2D19	Class 9b – assembly buildings: other assembly buildings (not listed in NSW E2D16 top E2D18	N/A			
E2D21	Provision for special hazards	N/A			
Part E3 - Lift installations					
E3D2	Lift installations	N/A			
E3D3	Stretcher facility in lifts	N/A			
E3D4	Warning against use of lifts in fire	N/A			
E3D5	Emergency lifts	N/A			
E3D6	Landings	N/A			
E3D7	Passenger lift types and their limitations	N/A			
E3D9	Fire service controls	N/A			
E3D10	Residential care buildings	N/A			
E3D11	Fire service recall control switch	N/A			
E3D12	Lift car fire service drive control switch	N/A			
Part E4 - Visibility in an emergency, exit signs and warning systems					
E4D4	Design and operation of emergency lighting				✓
E4D8	Design and operation of exit signs				✓
E4D9	Emergency warning and intercom systems				✓
Section F - Health and amenity					
Part F1 - Surface water management, rising damp and external waterproofing					
F1D3	Stormwater drainage				✓
F1D4	Exposed joints				✓
F1D5	External waterproofing membranes				✓
F1D6	Damp-proofing				✓
F1D7	Damp-proofing of floors on the ground				✓
F1D8	Subfloor ventilation				✓
Part F2 - Wet areas and overflow protection					
F2D2	Wet area construction				✓
F2D3	Rooms containing urinals				✓
F2D4	Floor wastes				✓

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
Part F3 - Roof and wall cladding				
F3D2 Roof coverings				✓
F3D3 Sarking				✓
F3D4 Glazed assemblies				✓
F3D5 Wall cladding				✓
Part F4 - Sanitary and other facilities				
F4D2 Facilities in residential buildings	N/A			
F4D4 Facilities in Class 3 to 9 buildings	✓			
F4D8 Construction of sanitary compartments				✓
F4D11 Waste management	N/A			
Part F5 - Room heights				
F5D2 Height of rooms and other spaces	✓			
Part F6 - Light and ventilation				
F6D2 Provision of natural light	N/A			
F6D3 Methods and extent of natural light	N/A			
F6D4 Natural light borrowed from adjoining room	N/A			
F6D5 Artificial lighting				✓
F6D6 Ventilation of rooms				✓
F6D7 Natural ventilation	N/A			
F6D8 Ventilation borrowed from adjoining room	N/A			
F6D9 Restriction on location of sanitary compartments	N/A			
F6D10 Airlocks	N/A			
F6D11 Car parks	N/A			
F6D12 Kitchen local exhaust ventilation				✓
Part F7 - Sound transmission and insulation				
F7D3 Determination of airborne sound insulation ratings	N/A			
F7D4 Determination of impact sound insulation ratings	N/A			
F7D5 Sound insulation rating of floors	N/A			
F7D6 Sound insulation rating of walls	N/A			
F7D7 Sound insulation rating of internal services	N/A			
F7D8 Sound insulation rating of internal pumps	N/A			
Part F8 - Condensation management				

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
F8D3	External wall construction	N/A			
F8D4	Exhaust systems	N/A			
F8D5	Ventilation of roof spaces	N/A			
Section G - Ancillary provisions					
Part G1 - Minor structures and components					
G1D2	Swimming pools				✓
G1D3	Refrigerated chambers, strong-rooms and vaults	N/A			
G1D4	Outdoor play spaces	N/A			
Part G2 - Boilers, pressure vessels, heating appliances, fireplaces, chimneys and flues					
G2D2	Installation of appliances	N/A			
G2D3	Open fireplaces	N/A			
G2D4	Incinerator rooms	N/A			
Part G3 - Atrium construction					
G3D2	Dimensions of atrium well	N/A			
G3D3	Separation of atrium by bounding walls	N/A			
G3D4	Construction of bounding walls	N/A			
G3D5	Construction at balconies	N/A			
G3D6	Separation at roof	N/A			
G3D7	Means of egress	N/A			
G3D8	Fire and smoke control systems	N/A			
Part G4 - Construction in alpine areas					
G4D3	External doors	N/A			
G4D4	Emergency lighting	N/A			
G4D5	External trafficable structures	N/A			
G4D6	Clear space around buildings	N/A			
G4D7	Fire-fighting services and equipment	N/A			
G4D8	Fire orders	N/A			
Part G5 - Construction in bushfire prone areas					
NSW G5D3	Protection — residential buildings	N/A			
NSW G5D4	Protection — certain Class 9 buildings	N/A			
Part G6 - Occupiable outdoor areas					

BCA CLAUSE	COMPLIES	DOES NOT COMPLY	DESIGN DETAIL	CAPABLE OF COMPLYING
G6D2 – Occupiable outdoor areas G6D10	N/A			
Section I – Special use buildings				
Part I1 Class 9b buildings				
I1D2 – Class 9b buildings I1D7				✓

4.0 BCA DETAILED ASSESSMENT

4.1 General

With reference to the 'BCA Assessment Summary' contained within Section 3 of this report, the following detailed analysis and commentary is provided. This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA

4.2 Section B – Structure

Part B1 - Structural provisions

B1D2	Resistance to actions (prev. B1.1) The resistance of a building or structure shall be greater than the most critical action effect resulting from different combinations of actions – (a) The most critical action is determined in accordance with AS/NZS 1170.0-2002 and B1D3; and (b) The resistance of a building or structure is determined in accordance with B1D4.
B1D3	Determination of individual actions (prev. B1.2) The magnitude of individual actions must be determined in accordance with the actions contained within this clause, including – (a) Permanent actions; (b) Imposed actions; (c) Wind / snow / earthquake actions; (d) Considerations to the nature of the – I. Action; II. Building or structure; and III. Importance level; and (e) Any additional addition actions that may be applicable. Capable of Compliance: <i>The design is to be certified by the projects structural engineer at the construction certificate phase of the development.</i>
B1D4	Determination of structural resistance of materials and forms of construction (prev. B1.4)

B1D4
Cont'd

The structural resistance of materials and forms of construction must be determined in accordance with this clause (as appropriate or as applicable), a summary is as follows

- (a) Masonry: AS 3700:2018.
- (b) Concrete:
 - I. Concrete construction: AS 3600:2018.
 - II. Autoclaved aerated concrete: AS 5146.1:2015 & AS 5146.3:2018.
 - III. Post-installed and cast-in fastenings: AS 5216:2021.
- (c) Steel construction:
- (d) Steel structures: AS 4100:2020.
 - I. Cold-formed steel structures: AS/NZS 4600:2018.
 - II. Composite steel and concrete: AS/NZS 2327-2017.
 - III. Aluminium construction: AS/NZS 1664.1:1997 or AS/NZS 1664.2:1997.
- (e) Timber construction:
 - I. Design of timber structures: AS 1720.1.
 - II. Timber structures: AS 1684.2:2021, AS 1684.3:2021 or AS 1684.4:2010.
 - III. Nailplated timber roof trusses: AS 1720.5:2015.
- (f) Piling: AS 2159:2009.
- (g) Glazed assemblies:
 - I. External: AS 2047:2014.
 - II. Internal: AS 1288:2021.
- (h) Termite Risk Management: AS 3660.1:2014.
- (i) Roof construction (except in cyclonic areas):
 - I. Roof tiling: AS 2050:2018.
 - II. Cellulose cement corrugated sheets: AS/NZS 2908.1:2000.
 - III. Metal roofing: AS 1562.1:2018.
 - IV. Particleboard structural flooring: AS 1860.2:2006.

Capable of Compliance: The design is to be certified by the projects structural engineer at the construction certificate phase of the development.

B1D6

Construction of buildings in flood hazard areas (prev. B1.6)

A building in a flood hazard area must comply with the ABCB Standard for Construction of Building in Flood Hazard areas. Consent Authority (Council) or Principal Certifying Authority (Certifier) can advise whether the building is situated in a flood hazard area.

Capable of Compliance: *The design is to be certified by the projects structural engineer at the construction certificate phase of the development.*

4.3 Section C – Fire Resistance & Stability

Part C2 - Fire Resistance and Stability

C2D2

Type of Construction Required (prev. C1.1)

Exposure to fire source features

A part of a building element is exposed to a fire-source feature if any of the horizontal straight lines between that part and the fire-source feature, or vertical projection of the feature, is not obstructed by another part of the building that has an FRL of not less than 30/-/- and is neither transparent nor translucent.

Fire protection for a support of another part

Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part, must have an FRL not less than that required by other provisions of this specification and be non-combustible. In addition, the supporting element must have an FRL (with respect to structural adequacy), greater of that required for the supporting part itself and for the part it supports

Lintels

A lintel must have the FRL required for the part of the building in which it is situated. A lintel need not require fire rating if it meets the requirements of this clause.

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

The method of attaching or installing a finish, lining, ancillary element, or service installation to a building element must not reduce the fire-resistance of that element to below that required.

General Concessions

The following concessions are applicable for the proposed development

(a) (Steel columns) A steel column, other than one in a fire wall or common wall, need not have an FRL within the proposed building

C2D2
Cont'd

(b) (Timber columns) A timber column may be used in the proposed building if in accordance with the requirements of this clause.

(c) (Structures on roofs) The structures listed within sub-clause S5C6(3) and situated on a roof, need not comply with this specification

(d) (Curtain walls and panel walls) Curtain or panel walls which is of non-combustible construction and fully protected by automatic external wall-wetting sprinklers, are not required to achieve an FRL in accordance with this specification

(e) (Balconies and Verandahs) A balcony, verandah or the like and any incorporated supporting part, which is attached to or forms part of a building, does not require an FRL, provided that

I. it does not form part of the only path of travel to a required exit from the building; and

II. in Type A construction, it is situated not more than 2 storeys above the lowest storey providing direct egress to a road or open space and any supporting columns are of non-combustible construction.

Type A Requirements: Fire Resistance of Building Elements

(a) (General) each building element are required to achieve the nominated FRLs as nominated within BCA Specification 5 as applicable. - These FRLs have been summarised within Tables C5C11a – C5C11g.

(b) (Internal Walls) 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 (non-combustible) roof covering, 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

III. 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

(c) (Loadbearing internal walls & fire walls & shafts) must be constructed from concrete, masonry, fire-protected timber.

Type A Requirements: Concession for Floors

A floor need not comply with an FRL if—

(a) it is laid directly on the ground; or

(b) in a Class 2, 3, 5 or 9 building, the space below is not a storey, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or

C2D2
Cont'd

(c) it is a timber stage floor in a Class 9b building laid over a floor having the required FRL and the space below the stage is not used as a dressing room, store room, or the like; or

(d) it is within a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; or

(e) it is an open-access floor (for the accommodation of electrical and electronic services and the like) above a floor with the required FRL.

Type A Fire-resisting Construction — Roof Superimposed on Concrete Slab: Concession

A roof superimposed on a concrete slab roof need not comply with S5C11 as to fire-resisting construction if the superimposed roof and any construction between it and the concrete slab roof are non-combustible throughout, the concrete slab roof complies with Table S5C11g.

Type A fire-resisting construction — roof: Concession

A roof need not comply with Table S5C11g if its covering is non-combustible and the building –

(a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout.

(b) has a rise in storeys of 3 or less; or

(c) is of Class 2 or 3; or

(d) has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.

Type A fire-resisting construction — Roof Lights

If a roof is required to have an FRL or its covering is required to be non-combustible, roof lights or the like installed in that roof must—

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

(b) be not less than 3 m from—

I. any boundary of the allotment other than the boundary with a road or public place; and

II. any part of the building which projects above the roof unless that part has the FRL required of a fire wall and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C4D5; and

III. any roof light or the like in an adjoining sole-occupancy unit if the walls bounding the unit are required to have an FRL; and

C2D2
Cont'd

IV. any roof light or the like in an adjoining fire-separated section of the building; and

(c) if a ceiling with a resistance to the incipient spread of fire is required, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.

Type A fire-resisting construction — Internal Columns & Walls: Concession

For a building with an effective height of not more than 25 m and is provided with a non-combustible roof in accordance with this specification, the internal columns (other than fire walls and shaft walls) in the storey immediately below that roof, may have FRL no less than 60/60/60 (for rise in storeys exceeding 3) or have 'nil FRL' (for rise in storeys exceeding 3) (in the Class 5, 6, 7, 8 or 9 part with rise in storeys exceeding 3: FRL 60/60/60 or with rise in storeys not exceeding 3: no FRL.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

C2D9

Lightweight Construction (prev. C1.8)

Any lightweight construction to internal walls required to achieve an FRL or protection to steel columns required achieve an FRL are required to be tested for resistance in accordance with this clause.

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

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

C2D10

Non-combustible Elements (prev. C1.9)

The following building elements and their components must be non-combustible

- (a) External walls, including all components incorporated in them including the façade covering, framing and insulation;
- (b) The flooring and floor framing of lift pits;
- (c) Internal loadbearing elements
- (d) on-loadbearing internal walls where they are required to be fire-resisting.

A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of

C2D10
Cont'd

non-combustible construction in a building required to be of Type A construction

A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification 5

Capable of Compliance: *External walls are to be constructed of non-combustible materials.*

C2D11

Fire Hazard Properties (prev. C1.10)

This clause outlines the minimum fire hazard properties of materials inside the subject development which is susceptible to the effects of flame or heat. All linings, materials or assemblies used for flooring, floor coving, wall and ceiling lining are required to comply with Specification 7.

Capable of Compliance: *All linings, materials or assemblies used for flooring, floor coving, wall and ceiling lining test reports are to be assessed by the project architect and certifier.*

C2D14

Ancillary Elements (prev. C1.14)

An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the elements permitted under this clause.

Capable of Compliance: *All combustible ancillary elements fixed, installed or attached to the internal parts or external face of an external wall are to be assessed by the project architect and certifier at CC stage.*

C2D15

Fixing of Bonded Laminated Cladding Panels

Externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. An externally located bonded laminated cladding panel need not comply with the above if the material is laminated glass system, layered plasterboard product, perforated gypsum lath with a normal paper finish, fibrous-plaster sheet or fibre-reinforced cement sheeting.

Capable of Compliance: *The fixing methodology of any bonded laminated cladding panels is to be assessed by the project architect and certifier at CC stage.*

Part C3 - Compartmentation and separation

C3D3

General Floor Area & Volume Limitations (prev. C2.2)

The maximum floor area and volume limitations of a fire compartment as nominated in the deemed to satisfy provisions are as follows:

Type A - The floor area and volume limitations for a Class 9b are 8,000 m² and 48,000 m³

The building is considered a single fire compartment with a volume of 53,590 m³ which exceeds the maximum allowable.

Performance Solution: *Justify oversized fire compartment of 53590 m² in lieu of 48000 m².*

C3D13

Separation of Equipment (prev. C2.12)

Any of the following equipment located in the building must be separated from the remainder of the building:

- (a) lift motors and lift control panels; or
- (b) emergency generators used to sustain emergency equipment operating in the emergency mode; or
- (c) central smoke control plant; or
- (d) boilers; or
- (e) a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more

Equipment need not be separated in if the equipment comprises:

- (a) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification 21; or
- (b) stair pressurising equipment installed in compliance with the relevant provisions of AS 1668.1; or
- (c) a lift installation without a machine-room; or
- (d) equipment otherwise adequately separated from the remainder of the building.

Equipment otherwise adequately separated from the remainder of the building. Separation must be by construction having an FRL as required by Specification 5, but not less than FRL 120/120/120 with openings protected by self-closing fire doors having an FRL of not less than –/120/30.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

C3D14

Electricity Supply Systems (prev. C2.13)

If the main switchboard sustains emergency equipment operating in emergency mode, then the switchboard shall be separated with construction achieving an FRL of 120/120/120 or /120/120 (if non-loadbearing) and any access doorway shall be protected with a self-closing fire door having an FRL of -/120/30

The emergency switchgear shall be separated from the non-emergency switchgear via a metal partition to minimise the spread of a fault from the non-emergency switchgear. For the purposes

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part C4 - Protection of openings

C4D16

Construction Joints (prev. C3.16)

This clause sets out to limit the spread of fire between elements which are required to achieve an FRL. Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 4072.1 and AS 1530.4 to achieve the required FRL or that differs from a prototype in accordance with Section 4 of AS 4072.1 and achieves the required FRL.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development*

C4D17

Columns Protected with Lightweight Construction to Achieve an FRL (prev. C3.17)

This clause prohibits columns with lightweight fire protection from lowering the fire-resistance levels (FRLs) of other building elements. A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

4.4 Section D – Access and Egress

Part D2 - Provisions for escape

D2D3

Number of exits required (prev. D1.2)

Without passing through another sole-occupancy unit every occupant of a storey must have access to an exit or at least 2 exits if required.

Two (2) exits must be provided from any storey or mezzanine that accommodates more than 50 persons.

Complies: *The number of exits has been assessed as complying with the requirements of this clause.*

D2D5

Exit travel distances (prev. D1.4)

Travel distance must not be more than-

(a) 20 m from any point on the floor to an exit or a point of choice to at least two (2) exits; and.

(b) 40 m from any point on the floor to an exit, if more than one (1) exit is available.

Performance Solution: *Justify extended travel distances:*

(a) *To an exit of 52 m in lieu of 40 m throughout the building.*

(b) *To a point of choice of 25 m in lieu of 20 m throughout the building.*

D2D6

Distance between alternative exits (prev. D1.5)

Alternative exits must –

(a) be located so that alternative paths of travel do not converge such that they become less than 6 m apart.

(b) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas.

Exits shall be located to not be more than 60m apart and not closer than 9m

Performance Solution: *Justify extended distance between exits of 105 m in lieu of 60 m throughout the building.*

D2D7

Height of exits, paths of travel to exits and doorways (prev. D1.6)

In a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development*

D2D8

Width of exits and paths of travel to exits (prev. D1.6)

The unobstructed width of each required exit or path of travel to an exit, must be not less than 1 m.

If the storey, mezzanine or open spectator stand accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width of required exits or paths of travel to an exit, must be not less than 1 m plus 250 mm for each 25 persons (or part) in excess of 100.

If the storey, mezzanine or open spectator stand accommodates more than 200 persons, the aggregate unobstructed width of required exits or paths of travel to an exit, must be not less than –

(a) 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12, or

(b) in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200.

Complies: *The egress widths have been assessed as complying with the requirements of this clause as there will be over 8 m of aggregate egress and only 7 m required to accommodate 900 persons.*

D2D9

Width of doorways in exits or paths of travel to exits (prev. D1.6)

The unobstructed width of each exit provided to comply with D2D8, minus 250 mm.

In any other case except where it opens to a sanitary compartment or bathroom, the doorway must not be less than 750 mm wide.

D2D10

Exit width not to diminish in direction of travel (prev. D1.6)

The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space, except where the width is increased in patient care areas.

Complies: *The unobstructed width does not diminish and has been assessed as complying with the requirements of this clause.*

D2D15

Discharge from exits (prev. D1.10)

An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it e.g. discharge points.

If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than -

(a) 1 m or minimum width of the required exit; or

(b) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by a ramp or other incline having a gradient not steeper than 1:8 at any part (not steeper than 1:14 if required to be accessible) or a stairway.

The discharge point of alternative exits must be located as far apart as practical.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development*

D2D21

Plant rooms, lift machine rooms and electricity network substations: Concession (prev. D1.16)

A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area of not more than 100m² or all but one point of egress from a plant room or a lift machine room with a floor area not more than 200m².

Sub-clause (2) sets out the parameters for the ladders permitted to be used in this circumstance.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development*

Part D3 - Construction of exits

D3D8

Installations in exits and paths of travel (prev. D2.7)

Gas or other fuel services shall not be installed within the required exits.

Any services or equipment (being electrical meters, distribution boards or the like) installed within the hallway are required to be enclosed by non-combustible construction or a fire-protective covering (i.e. 1 layer of 13mm fire-protective grade plasterboard) with doorway(s) or opening(s) suitably sealed against smoke spreading from the enclosure.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D16

Thresholds (prev. D2.15)

The threshold of a doorway is not permitted to incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.

That is unless the doorway opens to a road or open space and:

(a) In a building required to be accessible, is provided with a threshold or step ramp in accordance with AS1428.1-2009; or

(b) In all other cases, the door sill is not more than 190mm above the finished surface of the ground.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D17

Barriers to prevent falls (prev. D2.16)

A continuous barrier must be provided along the side of the following if the trafficable surface is 1 m or more above the surface beneath –

(a) a roof to which general access is provided; and

(b) a stairway or ramp; and

(c) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and.

(d) any delineated path of access to a building.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D18

Height of barriers (prev. D2.16)

The height of a barrier should comply with the following –

(a) For stairways or ramps with a gradient of 1:20 or steeper, the barrier must be at least 865 mm in height.

(b) For landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length, the barrier must be at least 865 mm in height.

For all other locations, the barrier must be at least 1 m in height.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D19

Openings in barriers (prev. D2.16)

Openings in barriers must -

- (a) Not allow a 125 mm sphere to pass through; or
- (b) In fire-isolated stairways or ramps, must not allow a 300 mm sphere to pass through, or, if rails are used –
 - I. A 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the rail and the floor of the landing, balcony or the like; and
 - II. The opening between rails must not be more than 460 mm.
- (c) If fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm. The opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D23

Fixed platforms, walkways, stairways and ladders (prev. D2.18)

A fixed platform, walkway, stairway, ladder and any going and riser, landing, handrail or barrier may comply with AS1657 in lieu of D3D14, D3D15, D3D17, D3D18, D3D19, D3D20, D3D21 and D3D22 if it only serves –

- (a) machinery rooms, boiler houses, lift-machine rooms, plant-rooms, and the like; or
- (b) non-habitable rooms, such as attics, storerooms and the like that are not used on a frequent or daily basis in the internal parts of a sole-occupancy unit in a Class 2 building or Class 4 part of a building.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D24

Doorways and doors (prev. D2.19)

A doorway serving as a required exit or forming part of a required exit must not be fitted with –

- (a) a revolving door; and
- (b) a roller shutter or tilt-up door unless—
 - I. it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m²; and
 - II. the doorway is the only required exit from the building or part; and

D3D24
Cont'd

III. it is held in the open position while the building or part is lawfully occupied; and

(c) a sliding door unless it leads directly to road or open space and the door can be manually opened by a force of not more than 110N; and

(d) a power operated door It must be opened manually under a force of not more than 110N and if it leads directly to road or open space, must open automatically on power failure, or activation of a fire or smoke alarm.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D25

Swinging doors (prev. D2.20)

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.

Complies: *The swinging doors have been assessed as complying with the requirements of this clause.*

D3D26

Operation of latch (prev. D2.21)

Any door in a required exit, forming part of a required exit or in the path of travel to a required exit are required to be readily operable without a key from the side that faces a person seeking egress-

(a) By a single hand pushing or downward action on a single device located between 900mm and 1100mm from the floor-

(b) Be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and

(c) Have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm nor more than 45mm.

(d) A single hand pushing action on a single device which is located between 900mm and 1.2m above the floor. Where the latch operation device is not located on the door, the power operated manual controls must be at least 25mm wide, proud of the surrounding surface and located 500mm from an internal corner and between 1-2m of the doorway.

(e) Is fitted with a fail-safe device which automatically unlocks the door upon activation of any smoke or any other detector deemed suitable in accordance with AS1670.1-2015.

D3D26
Cont'd

(f) Certain requirements or concessions apply when the door serves a vault, strong-room, sanitary compartment, an SOU, Australian Government Security Zones 4 or 5; or the secure parts of a bank, detention centre, mental health facility, early childhood centre, 9a or 9c building.

Any door in a required exit, forming part of a required exit or in the path of travel to a required exit serving a storey or room accommodating more than 100 persons within the building, needs to be readily openable -

- (a) without a key from the side that faces a person seeking egress; and
- (b) by a single hand pushing action on a single device such as a panic bar located between 900 mm and 1.2 m from the floor; and
- (c) where a two-leaf door is fitted, the provisions of (a) and (b) need only apply to one door leaf if the appropriate requirements of D2D9 are satisfied by the opening of that one leaf; and
- (d) where the door is a door in a path of travel providing re-entry to the building from a balcony, terrace or the like, it may be fitted with key-operated fastenings only, the tongues of which must be locked in the retracted position whenever the building is occupied by the public, so the door can yield to pressure.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

D3D28

Signs on doors (prev. D2.23)

Signs required of fire doors must be in capital letters not less than 20 mm high in a colour contrasting with the background and state:

- (a) for an automatic door held open by an automatic hold-open device:
 - I. "FIRE SAFETY DOOR—DO NOT OBSTRUCT"; or
 - II. for a self-closing door—
 - III. FIRE SAFETY DOOR
 - IV. DO NOT OBSTRUCT
 - V. DO NOT KEEP OPEN"; or
- (b) for a door discharging from a fire-isolated exit:
 - I. FIRE SAFETY DOOR—DO NOT OBSTRUCT

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

4.5 Section E - Services and equipment

Part E1 – Fire fighting equipment

E1D2

Fire Hydrants (prev. E1.3)

A fire hydrant system complying with AS2419.1-2021 is required to serve the building, including –

(a) If internal hydrants are provided, all points on a floor are required to be within 40 m of an internal hydrant;

If external hydrants are provided, all points on a floor are required to be within 70 m of an external hydrant;

If the fire brigade booster assembly is within, or affixed to, the external wall of the building, the booster shall be within 20 m of the principal pedestrian entrance and be identified by a visual alarm device;

If the fire brigade booster assembly is remote from the building, it is required to be–

(a) adjacent to the site boundary and the principal vehicle access for the fire brigade pumping appliance to the building or site;

(b) or within 20 m of the façade of the building containing the principal pedestrian entrance and within 20 m of the main pedestrian entrance.

Performance Solution: *Justify the departure from the hydrant standard AS2419.1 Booster assembly not adjacent to the principal vehicular access to the site.*

E1D3

Hose Reels (prev. E1.4)

A hose reel system complying with AS2441-2005 is required to serve the building, where one or more internal fire hydrants are installed.

A fire hose reel system must be provided in accordance with the following –

(a) Hose reels are required to be located within 4m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved;

(b) All points on a floor are required to be in reach of a 4m hose stream at the end of a 36m hose length laid on the floor;

(c) Additional hose reels can be installed along the path of travel where additional coverage is required;

(d) A hose reels must be located so that the fire hose will not pass through a fire or smoke door.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

E1D14

Portable fire extinguishers (prev. E1.6 and Table E1.6)

Portable fire extinguishers must be provided in accordance with the below -

- (a) To cover Class AE or E fire risks associated with emergency services switchboards.
- (b) To cover Class F fire risks involving cooking oils and fats in kitchens.
- (c) To cover Class B fire risks in locations where flammable liquids in excess of 50 litres are stored or used (not including that held in fuel tanks of vehicles).
- (d) To cover Class A fire risks in normally occupied fire compartments less than 500 m² not provided with fire hose reels (excluding open-deck carparks).

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part E2 - Smoke hazard management

NSW
E2D16

Class 9b – assembly buildings: all (prev. Table E2.2b)

A building or part of a building used as an assembly building must be provided with automatic shutdown of any air-handling system (other than non-ducted individual room units with a capacity not more than 1000 L/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 6 of AS 1668.1) which does not form part of the smoke hazard management system, on the activation of—

- (a) smoke detectors installed complying with S20C6; and
- (b) any other installed fire detection and alarm system, including a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part E4 - Visibility in an emergency, exit signs and warning systems

E4D4

Design and operation of emergency lighting (prev. E4.4)

Every required emergency lighting system must comply with AS/NZS 2293.1-2018.

The design is to be certified by the dry fire designer at the construction certificate phase of the development.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

E4D8

Design and operation of exit signs (prev. E4.8)

Every required exit sign must—

(a) comply with—

I. AS/NZS 2293.1; or

II. for a photoluminescent exit sign, Specification 25; and

(b) clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

E4D9

An emergency warning and intercom system complying, where applicable, with AS 1670.4 must be installed in a Class 9b building used as a theatre, public hall, or the like, having a floor area more than 1000 m² or a rise in storeys of more than 2

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

4.6 Section F - Health and amenity

Part F1 - Surface water management, rising damp and external waterproofing

F1D3

Stormwater drainage (prev. F1.1)

Stormwater drainage must be designed and constructed in accordance with AS/NZS 3500.3:2018. The system is to be designed by the project's Hydraulic or Civil Engineer as part of the hydraulic / civil design documentation.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F1D4

Exposed joints (new for 2022)

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must—

(a) be protected in accordance with Section 2.9 of AS 4654.2:2012; and

(b) not be located beneath or run through a planter box, water feature or similar part of the building.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F1D5

External waterproofing membranes (prev. F1.4)

A roof, balcony, podium, or similar horizontal surface part of a building must be provided with a waterproofing membrane in accordance with AS 4654.1:2012 and AS 4654.2:2012

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F1D6

Damp-proofing (F1.9)

Moisture from the ground must be prevented from reaching –

- (a) the lowest floor timbers and the walls above the lowest floor joists; and
- (b) the walls above the damp-proof course; and
- (c) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders.

Where a damp-proof course is required, it must consist of materials complying with AS/NZS 2904:1995 or impervious sheet material in accordance AS 3660.1:2014.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F1D7

Damp-proofing of floors on the ground (prev. F1.10)

A floor laid directly onto ground or fill must be provided with a vapour barrier complying with AS2870:2011.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F1D8

Subfloor ventilation (prev. F1.12)

Subfloor spaces must –

- (a) be provided with openings and clearances in accordance with Table F1D8 of the BCA; and
- (b) be cleared of all building debris and vegetation; and
- (c) have the ground beneath the suspended floor graded to prevent surface water ponding under the building; and
- (d) contain no dead air spaces; and
- (e) have openings evenly spaced as far as practicable; and

F1D8
Cont'd

(f) have openings placed not more than 600 mm in from corners.

In double leaf masonry walls, openings must be provided in both leaves of the masonry, with openings being aligned to allow an unobstructed flow of air.

In internal subfloor walls, openings must have an unobstructed area equivalent to that required for the adjacent external openings.

Additional requirements for excessively damp spaces or areas subject to frequent floods

In addition to the above, one of the following is required –

(a) Increase subfloor ventilation (as required by Table F1D8) by 50%; or

(b) Seal the ground with an impervious membrane; or

(c) Subfloor framing must be –

I. where above ground, above-ground durability Class 1 or 2 timbers or H3 preservative treated timbers in accordance with AS 1684.2:2021, AS 1684.3:2021 or AS 1684.4:2010; or

II. where in ground, in-ground durability Class 1 or 2 timbers or H5 preservative treated timbers in accordance with AS 1684.2:2021, AS 1684.3:2021 or AS 1684.4:2010; or

III. steel in accordance with NASH Standard 'Residential and Low-Rise Steel Framing' Part 2.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part F2 - Wet areas and overflow protection

F2D2

Wet area construction (prev. F1.7)

Building elements in a bathroom or shower room, a slop hopper or sink compartment, a laundry or sanitary compartment must be water resistant or waterproof in accordance with Spec. 26 and AS 3740:2021.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F2D3

Rooms containing urinals (prev. F1.7)

Slab or stall type urinal

(a) Floor surface must be an impervious material;

F2D3
Cont'd

I. Where no step is installed - graded to the urinal channel for a distance of 1.5 m from the urinal channel; and have the remainder of the floor graded to a floor waste

II. Where a step is installed - step must have an impervious surface and be graded to the urinal channel; and the floor behind the step must be graded to a floor waste;

(b) the junction between the floor surface and the urinal channel must be impervious.

Wall hung urinal

(a) the wall must be surfaced with impervious material extending from the floor to not less than 50 mm above the top of the urinal and not less than 225 mm on each side of the urinal; and

(b) the floor must be surfaced with an impervious material and be graded to a floor waste.

Timber or steel-framed walls

(a) The wall must be surfaced with an impervious material extending from the floor to not less than 100 mm above the floor surface; and

(b) The junction of the floor surface and the wall surface must be impervious.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F2D4

Floor wastes (F1.11)

Where a floor waste is installed, the continuous fall of a floor plane to the waste must be between 1:80 and 1:50.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part F3 - Roof and wall cladding

F3D2

Roof coverings (prev. F1.5)

A roof must be covered with —

(a) Concrete roofing tiles: AS 2049:2002 & AS 2050:2018; or

(b) Metal sheet roofing: AS 1562.1:20xx; or

(c) Plastic sheet roofing: AS 1562.3: 20xx or

F3D2
Cont'd

(d) Terracotta, fibre-cement and timber slates and shingles: AS 459720xx, except in cyclonic areas; or

(e) An external waterproofing membrane complying with F1D5.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F3D3

Sarking (prev. F1.6)

Any sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS4200.1:2017 and AS4200.2:2017.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F3D4

Glazed assemblies (prev. F1.13)

The following glazed assemblies in an external wall, must comply with AS 2047:2014 requirements for resistance to water penetration:

- (a) Windows.
- (b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame.
- (c) Adjustable louvres.
- (d) Shopfronts.
- (e) Window walls with one piece framing.

Despite the above The following glazed assemblies are exempt from complying with AS 2047:2014:

- (a) All glazed assemblies not in an internal wall.
- (b) Revolving doors.
- (c) Fixed louvres.
- (d) Skylights, roof lights and windows in other than the vertical plane.
- (e) Sliding and swinging glazed doors without a frame.
- (f) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047.
- (g) Second-hand windows, re-used windows and recycled windows.
- (h) Heritage windows.

F3D4
Cont'd

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F3D5

Wall cladding

External wall cladding must comply with one or a combination of following:

- (a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700:2018.
- (b) Autoclaved aerated concrete: AS 5146.3:2018.
- (c) Metal wall cladding: AS 1562.1:2018.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part F4 - Sanitary and other facilities

F4D4

Facilities in Class 3 to 9 buildings (F2.3)

Sanitary facilities shall be provided for occupants in accordance with the relevant tables from this clause. There is an adequate number of sanitary facilities provided. Refer to **Section 2.4** for the detailed calculation.

F4D8

Construction of sanitary compartments (prev. F2.5)

Sanitary compartments must have doors and partitions that separate adjacent compartments and extend 1.8m above the floor.

The door to a full enclosed sanitary compartment is required to:

- (a) Open outwards;
- (b) Slide; or
- (c) Be readily removable from the outside of the sanitary compartment (i.e. lift-off hinges).

Unless there is a clear space of at least 1.2m between the closest pan within the sanitary compartment and the hinge side edge of the doorway.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Part F5 - Room heights

F5D2

Height of rooms and other spaces

The ceiling heights are required to comply with the following:

- (a) A part that accommodates not more than 100 persons (including any corridor that serves the assembly building) — 2.4 m;
- (b) A part that accommodates more than 100 persons (including any corridor that serves the assembly building) — 2.7 m

Complies: *The height of rooms and other spaces has been assessed as complying with the requirements of this clause.*

Part F6 - Light and ventilation

F6D5

Artificial lighting (prev. F4.4)

Artificial lighting in accordance AS/NZS 1680.0 must be provided—

- (a) in required stairways, passageways, and ramps; and
- (b) if natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in—
 - I. a Class 4 part of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries; and
 - II. a Class 2 building — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and
 - III. Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.

The system may provide a lesser level of illumination to the following spaces during times when the level of lighting would be inappropriate for the use:

- (a) A theatre, cinema or the like, when performances are in progress, with the exception of aisle lighting required by Part I1.
- (b) A museum, gallery or the like, where sensitive displays require low lighting levels.
- (c) A discotheque, nightclub or the like, where to create an ambience and character for the space, low lighting levels are used.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F6D6

Ventilation of rooms (prev. F4.5)

Natural or mechanical ventilation is required to be provided any habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose.

If mechanical ventilation is provided Mechanical Engineer / Contractor to ensure the system is in accordance AS 1668.2-2012.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

F6D12

Kitchen local exhaust ventilation (prev. F4.12)

A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and AS 1668.2 where—

(a) any cooking apparatus has—

I. a total maximum electrical power input exceeding 8 kW; or

II. a total gas power input exceeding 29 MJ/hour; or

(b) the total maximum power input to more than one apparatus exceeds, per m² of floor area of the room or enclosure—

I. 0.5 kW electrical power; or

II. 1.8 MJ/hour gas.

Capable of Compliance: *The design is to be certified by the appropriate consultant at the construction certificate phase of the development.*

Section G -Minor structures and components

G1P1

Swimming Pools (prev. GP1.1)

A water recirculation system in a swimming pool with a depth of more than 300mm must comply with AS1926.3 in accordance with G1D2 of the BCA.

A performance solution for the drainage of the internal pools must be prepared by to address GP1.1 of the BCA as there are no deemed to satisfy provisions.

4.7 SECTION I - SPECIAL USE BUILDINGS

Part II - Class 9b Buildings

I1D4

Seating area (prev. H1.4)

In a seating area—

(a) the gradient of the floor surface must not be steeper than 1 in 8, or the floor must be stepped so that—

I. a line joining the nosings of consecutive steps does not exceed an angle of 30° to the horizontal; and

II. the height of each step in the stepped floor is not more than 600 mm; and

III. the height of any opening in such a step is not more than 125 mm; and

(b) if an aisle divides the stepped floor and the difference in level between any 2 consecutive steps—

I. exceeds 230 mm but not 400 mm — an intermediate step must be provided in the aisle; and

II. exceeds 400 mm — 2 equally spaced intermediate steps must be provided in the aisle; and

III. the going of intermediate steps must be not less than 270 mm and such as to provide as nearly as practicable equal treads throughout the length of the aisle; and

(c) the clearance between rows of fixed seats used for viewing performing arts, sport or recreational activities must be not less than—

I. 300 mm if the distance to an aisle is not more than 3.5 m; or

II. 500 mm if the distance to an aisle is more than 3.5 m.

Capable of Compliance: *The design of the tiered seating within the pool area is to comply with this clause.*

5.0 CONCLUSION

Our strategy for ensuring compliance will be refined and documented during the design process in conjunction with the continual development of the architectural documentation, as required.

Based upon our assessment to date we are of the opinion that the subject development is capable of achieving compliance with the performance provisions of the BCA. Compliance would be achieved via a mixture of adopting a performance based approach as well as complying with the relevant deemed-to-satisfy requirements as outlined within the BCA, compliance via the performance based approach could occur without significant changes to the proposed design.

The Performance Solutions for the building will be developed as part of the ongoing design and consultation with the design team.

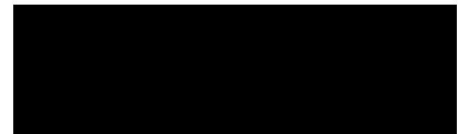
The details of the proposed Performance Solutions with respect to fire safety are subject to the outcome of the fire engineering brief and analysis which will be carried out in accordance with the International Fire Engineering Guidelines.

Report By



Ryan Dillon
Senior Building Regulations Consultant
For Design Confidence (Sydney) Pty Ltd

Verified By



Lindsay Beard
Principal | Building Regulations
For Design Confidence (Sydney) Pty Ltd

APPENDIX 1 – DOCUMENTATION PROVIDED FOR ASSESSMENT

This BCA assessment was based upon the architectural documentation prepared by CO-OP Studio namely—

DRAWING	REV	TITLE	DATE
DA000	A	Cover Page	14.06.2024
DA101	A	Site Plan	14.06.2024
DA201	A	Ground Floor Plan	14.06.2024
DA202	A	Roof Plan	14.06.2024
DA401	A	Elevations	14.06.2024
DA501	A	Sections	14.06.2024

APPENDIX 2 – ABBREVIATIONS & DEFINITIONS

The following acronyms and abbreviations are used throughout the report.

ACRONYM / ABBREVIATION	DEFINITION
AS	Australian Standard
CHF	Critical Heat Flux
BCA	Building Code of Australia 2022
DTS	Deemed to Satisfy
FRL	Fire-resistance level
FH	Fire hydrant
FHR	Fire hose reel
NCC	National Construction Code
PFE	Portable fire extinguisher
PBDB	Performance Based Design Brief
RC	Reinforced concrete
SOU	Sole occupancy unit
SPEC.	Specification
U-Value	Thermal transmittance

DEFINITIONS

The following definitions are provided for words used throughout the report.

Accessible

Accessible means having features to enable use by people with a disability.

Combustible

A material — means combustible as determined by AS 1530.1; and construction or part of a building — means constructed wholly or in part of combustible materials.

Deemed-to-Satisfy Provisions

Provisions which are deemed to satisfy the Performance Requirements.

Deemed-to-Satisfy Solution

A method of satisfying the Deemed-to-Satisfy Provisions.

Effective height

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

Exit

Exit means –

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

- (a) An internal or external stairway.
- (b) A ramp.
- (c) A fire-isolated passageway.
- (d) A doorway opening to a road or open space.
- (e) A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Fire compartment

Fire compartment means –

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

Fire-resistance level (FRL)

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with Specification A2.3, for the following criteria—

- (a) structural adequacy; and
 - (b) integrity; and
 - (c) insulation,
- expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

Fire-source feature

- (a) the far boundary of a road, river, lake or the like adjoining the allotment; or
- (b) a side or rear boundary of the allotment; or
- (c) an external wall of another building on the allotment which is not a Class 10 building

Fire wall

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

Loadbearing

Intended to resist vertical forces additional to those due to its own weight.

Non-combustible

Non-combustible means—

(a) applied to a material — not deemed combustible as determined by AS 1530.1:1994 — Combustibility Tests for Materials; and

(b) applied to construction or part of a building — constructed wholly of materials that are not deemed combustible

Occupiable outdoor area

Occupiable outdoor area means a space on a roof, balcony or similar part of a building—

(a) that is open to the sky; and

(b) to which access is provided, other than access only for maintenance; and

(c) that is not open space or directly connected with open space.

Open space

Open space means a space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.

Performance Requirement

Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Performance Solution

Performance Solution means a method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.

Sole-occupancy unit

Sole-occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—

(a) a dwelling; or

(b) a room or suite of rooms in a Class 3 building which includes sleeping facilities; or

(c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or

(d) a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.

APPENDIX 3 – FRLS

Table A1 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
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
For <i>non-loadbearing</i> parts—				
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	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Loadbearing	90/–/–	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
<i>Fire-resisting lift and stair shafts—</i>				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-loadbearing	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding <i>public corridors</i> , <i>public lobbies</i> and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units—</i>				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-loadbearing	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				
and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

Design Confidence (Sydney) Pty Limited

Suite 6 | 113 Reservoir Street, Surry Hills NSW 2010
ABN: 72 896 582 485

T: 02 8399 3707
E: sydney@designconfidence.com
W: www.designconfidence.com

This document is and shall remain the property of Design Confidence. The technical and intellectual content contained herein may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission.

Unauthorised use of this document in any form whatsoever is prohibited.