



NEST
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BCA

ASSESSMENT REPORT

PROJECT:	142-146 Pitt Road North Curl Curl NSW 2099
STAGE:	Development Application Phase
REFERENCE:	23074.1-BCA
DATE:	30 th November 2023
CLIENT:	Balito 1 Pty Ltd

Document Information

Issue	Description	Date
1	Preliminary Issue	30 th November 2023

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1. Introduction

1.1 Project Description

The proposed development is understood to include the construction of a mixed-use building comprising five (5) commercial tenancies, eleven (11) residential sole occupancy units and associated carparking located at 142-146 Pitt Road North Curl Curl NSW 2099.

1.2 Intent of Report

The purpose of this report is to provide an assessment of the proposed scope of works against the relevant deemed-to-satisfy provisions of the Building Code of Australia (BCA) Volume 1 2022, to accompany the Development Application submission.

Where non-compliances are identified, recommendations for resolution are to be provided in the form of a deemed to satisfy solution and/or performance-based solution, as applicable.

1.3 Limitations

This report does not include nor imply that an assessment of the following has been completed for the proposed works -

- (a) Structural Adequacy, Design & Performance;
- (b) Fire, Mechanical, Hydraulic and Electrical Services Design & Performance;
- (c) Work Health & Safety Act 2011;
- (d) Work Cover Authority Requirements;
- (e) Service & Utilities Authority Requirements;
- (f) The Disability Discrimination Act (DDA) 1992;
- (g) The National Construction Code Volume 2 2022;
- (h) National Construction Code Volume 3 2022 (Plumbing Code of Australia 2022);
- (i) The relevant accessibility Deemed-to-Satisfy provisions of the National Construction Code (i.e. Part D4, E3D7 - E3D8, F4D5 - F4D7 & F4D12);
- (j) The relevant energy efficiency Deemed-to-Satisfy provisions as contained within the National Construction Code (i.e. Section J).

1.4 Documentation Assessed

The assessment is based upon the documentation referenced within **Annexure 1** of this report.

2. Building Description

2.1 General

The proposed development is understood to include the construction of a mixed-use building comprising five (5) commercial tenancies, eleven (11) residential sole occupancy units and associated carparking located within the basement level.

The building is positioned along the northern side of Pitt Road, with access to each relevant building part provided directly via the road frontage, with main vehicular access to the basement carpark level provided via the right of way extending from Playfair Road, at the western elevation.

As part of the proposed uses, the building will be configured with multiple commercial tenancies with direct shop front entry off Pitt Road, with the residential sole occupancy units distributed between the ground floor and level 2, accessed via a passenger lift and stairway.

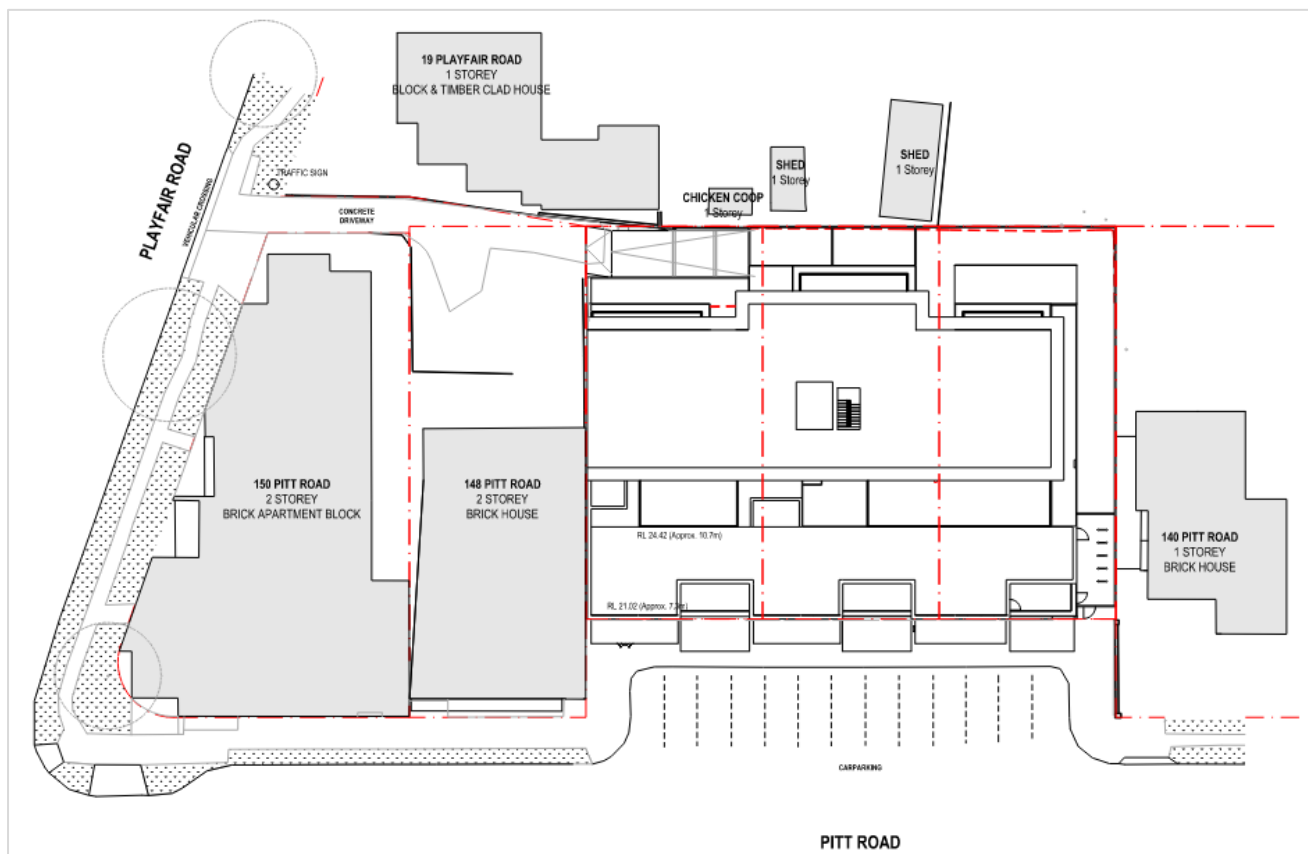


Figure 2.1 – Site plan

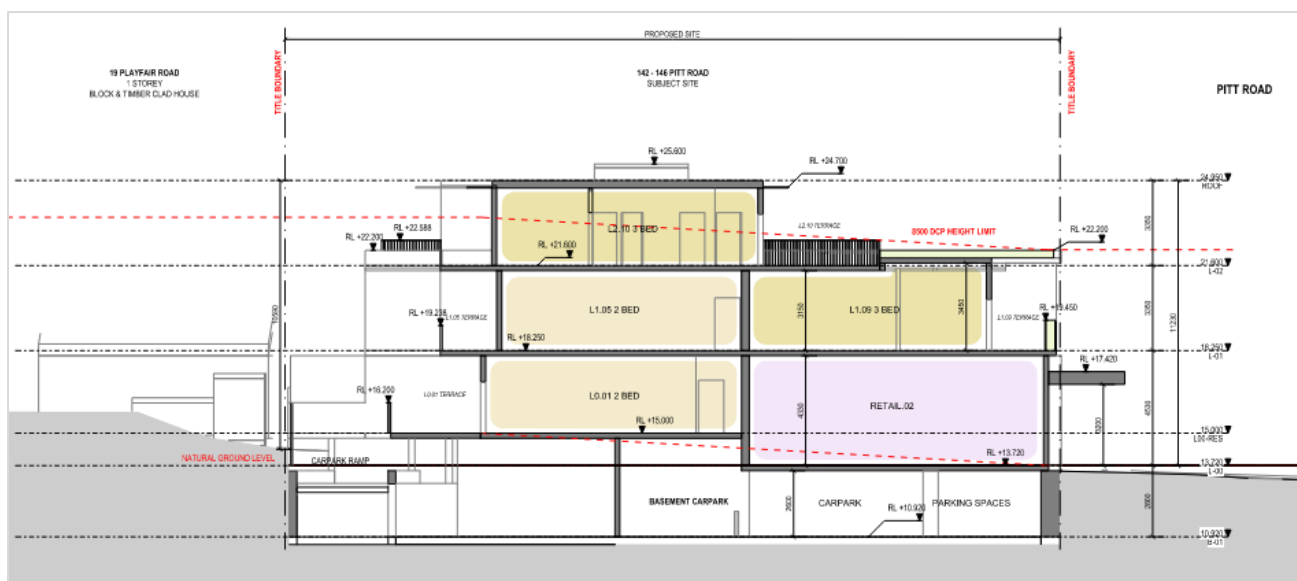


Figure 2.2 – Section view

2.2 Classification/s

The building has been identified as having the following building classification/s –

Classification	Description
2	Residential
6	Retail
7a	Carpark

2.3 Rise in Storeys

The building is determined as having a rise in storeys of 4.

2.4 Effective Height

The building is determined as having an effective height of approximately 10.68m.

2.5 Type of Construction

The building has been determined as being of Type A Construction.

2.6 Building Area & Volume

The building part has been determined as having the following area and volume.

Largest fire compartment	Area (m ²)	~350m ²
	Volume (m ³)	~1,515m ³
Ground floor area (m ²)		~930m ²
Total floor area (m ²)		~2,430m ²
Total volume (m ³)		~8,400m ³

2.7 Climate Zone

The building is situated within Climate Zone 5¹.

2.8 Interpretation Notes

The following interpretations have been adopted as part of the assessment undertaken for the proposed development -

- (a) The basement storey has been counted in the rise in storeys;
- (b) The building has been assessed as being proposed to be protected by a sprinkler system complying with Specification 17 of the BCA and AS2118.4-2012;
- (c) The required stairways throughout the building have been assessed as non-fire isolated;
- (d) The centrally located required stairway has been assessed as non-fire isolated based on the following –
 - (i) The stairway connects 3 consecutive storeys in the Class 2 parts of the building and an extra storey in the basement storey, which achieves a Class 2 and 7a classification.
 - (ii) The building is to be protected by a sprinkler system complying with Specification 17 of the BCA and AS2118.4-2012.
 - (iii) The Class 6 part/s will be separated from the Class 2 part at the ground floor storey by a fire wall complying with C3D8, with no direct internal connection provided between the Class 2 and 6 parts at the ground floor storey.
- (i) The voids located above the unit L01.08 and L01.09 garden areas are understood to be unroofed and open to the sky. Hence, the walls bounding the voids have been assessed as external walls;
- (j) The storage areas in the basement storey have been determined as accounting for less than 10% of the storey;
- (k) The northern area located on the roof of level 1, accessed via the level 2 common area is understood to be accessed by maintenance personnel only and hence has not been assessed as an occupiable outdoor area;

¹ Climate Zone Map: New South Wales and Australian Capital Territory, VC0031.3, Australian Building Codes Board, September 2019

- (l) Parts beyond the Class 2 balconies or terraces at level 1 and level 2 have been assumed as not being trafficable for the purposes of this design assessment;
- (m) The area highlighted in the figure below has been assessed as being allocated for the provision of a passenger lift to overcome the change in level within the ground floor public corridor.

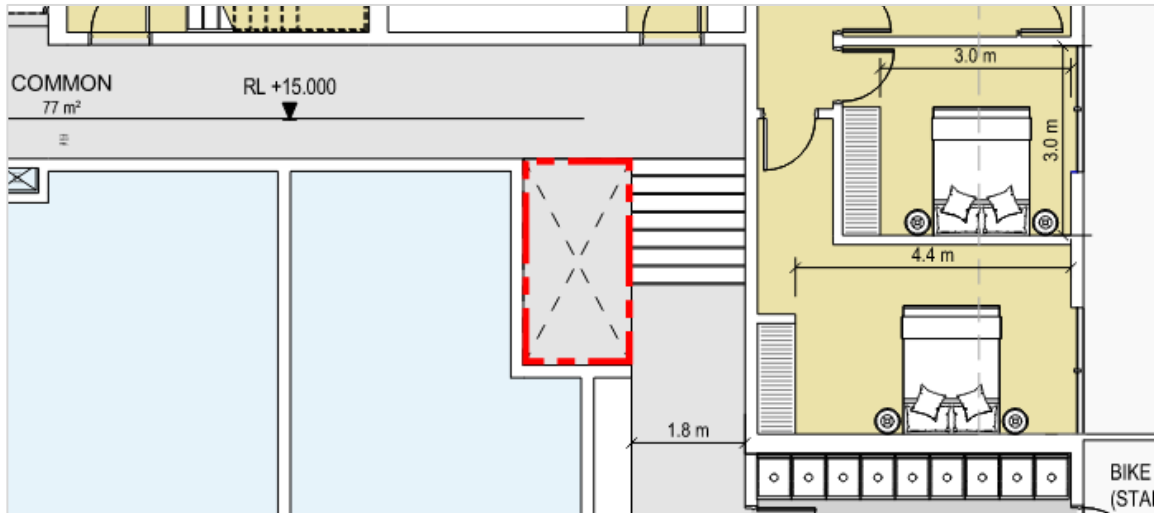


Figure 2.3 – Ground floor passenger lift

3. Preliminary Fire Safety Measures

Based on the building features and assessment undertaken, the following preliminary fire safety measures, as listed within Table 3.1 below, have been determined as required to be provided to the building.

NOTE – the fire safety measures listed below are not final and subject to design development, input from relevant project stakeholders and/or performance-based solutions (if applicable).

Item	Fire Safety Measure	Standard of Performance
1.	Access panels, doors and hoppers to fire-resisting shaft	C4D14 of the BCA
2.	Automatic fail-safe devices (if provided)	D3D24 & D3D26 of the BCA
3.	Automatic smoke detection and alarm system	E2D8, E2D9 (if provided) & Specification 20 of the BCA
4.	Automatic fire suppression system (sprinklers)	E1D4, E1D6, E1D9 (if provided) & Specification 17 of the BCA
5.	Building occupant warning system	S18C8 & S20C7 of the BCA
6.	Emergency lighting	E4D2, E4D4 of the BCA & AS/NZS 2293.1-2018
7.	Exit signs	E4D5, E4D6, E4D8 of the BCA & AS/NZS 2293.1-2018
8.	Fire doors	C3D13, C3D14, C4D6, C4D9, C4D11, C4D12, Specification 12 of the BCA, AS1735.11-1986 & AS1905.1-2005
9.	Fire hose reels (excl. Class 2 parts)	E1D3 of the BCA & AS2441-2005
10.	Fire hydrant system	E1D2 of the BCA & AS2419.1-2021
11.	Fire seals protecting openings in fire-resisting components of the building	C4D15, C4D16, Specification 13 of the BCA, AS1530.4-2014, AS4072.1-2005 & Manufacturers specifications
12.	Fire dampers (if provided)	C4D15 & E2D3 of the BCA & AS1668.1-2015
13.	Lightweight construction	C2D9, C4D17 (if provided) & Specification 6 of the BCA
14.	Mechanical ventilation system (Carpark)	E2D12 of the BCA & Clause 5.5 of AS1668.1-2015
15.	Portable fire extinguishers	E1D14 of the BCA & AS2444-2001
16.	Warning and operation signs	D4D7 & E3D4 of the BCA

Table 3.1 – Preliminary fire safety measures

4. Assessment Summary

The following table summarises matters identified as 'non-compliant' and/or requiring 'further information', with all other matters assessed considered to be either 'compliant' and/or 'capable of complying' via design detail.

A detailed clause by clause assessment is outlined in Section 5 of this report.

Item	BCA Clause	Issue	Recommendation/s for resolution
1.	C4D3	Openings in external walls that are required to achieve an FRL (incl. openings in the plane formed at the construction edge of the building) along the northern and southern elevations of the building are identified as being located less than 3m from side boundaries.	The following options are recommended – (a) Protect the subject openings in accordance with C4D5 of the BCA; OR (b) Justify the omission of protection to openings via a Performance Solution prepared in accordance with A2G2 of the BCA.
2.	C4D4	Parts of the external walls and openings in different fire compartments separated by a fire wall at the ground floor storey are identified as being located less than 4m apart.	The following options are recommended – (a) Protect parts of each wall separated by the fire wall with construction achieving an FRL not less than 60/60/60; and any openings are protected in accordance with C4D5, over a minimum distance of 4m between walls; OR (b) Justify the omission of protection parts of the walls and any openings via a Performance Solution prepared in accordance with A2G2 of the BCA.
3.	D2D5	The travel distance from the furthest points of the basement storey to a point of choice to alternative exits exceeds 20m, being up to ~29m.	The following options are recommended – (a) Re-configure the proposed layout so that the travel distance to a point of choice to alternative exits does not exceed 20m; OR (b) Justify the extended exit travel distance identified via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.

Item	BCA Clause	Issue	Recommendation/s for resolution
4.	D2D5	The travel distance from the entrance doorway of Unit L0.01, located on the ground floor, to the exit exceeds 30m, being up to ~32m.	The following options are recommended – (a) Re-configure the proposed layout so that the travel distance from the entrance doorway of the unit to the exit does not exceed 30m; OR (b) Justify the extended exit travel distance identified via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
5.	D2D8	The ground floor landing of the eastern stairway serving the basement level is identified as having a width of less than 1m, being ~950mm.	The subject landing is to be reconfigured so that an unobstructed width of not less than 1m is provided.
6.	D2D14	The travel distance from the point of discharge of the required non-fire isolated stairway serving the Class 2 & 7a parts exceeds 15m and 20m, respectively, being up to ~24m.	The following options are recommended – (a) Re-configure the proposed layout so that the travel distance from the point of discharge of the required stairway to the open space does not exceed 15m; OR (b) Justify the extended exit travel distance identified via a Performance Solution prepared in accordance with A2G2 of the BCA, at the Construction Certificate stage.
7.	D3D18	The height of barriers or balustrades within the several unit balconies are identified as being less than 1m above the floor level.	The height of barriers or balustrades at the subject unit balconies are to be extended to be not less than 1m above the floor surface of the balconies.
8.	E3D6	The lower-level lift landing provided within the ground floor public corridor is indicated as being obstructed by the provision of stairway handrails and required extensions, once incorporated within the design.	Re-configure the proposed layout so that a clearance of not less than 1,500mm x 1,500mm is provided at each lift landing that is clear of any obstructions.
9.	F6D3	Insufficient details have been provided so as to determine the extent of natural light provided via window openings to habitable rooms in the Class 2 parts.	The method of natural light to the habitable rooms is to be provided in accordance with F6D3 of the BCA, with compliance considered readily achievable at the Construction Certificate documentation stage by the provision of a window schedule.
10.	F6D4	It is identified that the study spaces within the Class 2 sole occupancy units are proposed to borrow natural light from an adjoining room. However, insufficient details have been provided so as to determine the extent of natural light provided via window openings in accordance with the requirements of this clause.	The method of natural light to the habitable rooms is to be provided in accordance with F6D4 of the BCA, with compliance considered readily achievable at the Construction Certificate documentation stage by the provision of a window schedule.

5. Potential Performance Solutions

The following table is provided as a summary for the potential performance-based solution/s that may be prepared to address and rationalize non-compliances identified within this report or opportunities to satisfy the relevant performance requirements of the BCA via a performance-based approach, as permitted under A2G1 of the BCA.

Item	BCA Clause	Description
1.	C2D2 & Specification 5	Rationalise a reduction in FRL of building elements throughout the Class 6 parts of the building.
2.	C2D2 & Specification 5	Rationalise a reduction in FRL of floors occurring in the residential wet areas due to slab set downs
3.	C2D2 & Specification 5	Omission of FRLs to the internal loadbearing walls supporting the roof at the topmost level, contained wholly within Units L2.10 & L2.11.
4.	C4D3	Omission of protection of openings in external walls that are required to achieve an FRL (incl. openings in the plane formed at the construction edge of the building) along the northern and southern elevations of the building located less than 3m from the side allotment boundaries.
5.	C4D4	Omission of protection to parts of the external walls and openings in different fire compartments separated by a fire wall at the ground floor storey.
6.	D2D5	Extended exit travel distance from the furthest points of the basement storey to a point of choice to alternative exits exceeding 20m, being up to ~29m.
7.	D2D5	Extended exit travel distance from the entrance doorway of Unit L0.01, located on the ground floor, to the exit exceeding 30m, being up to ~32m.
8.	D2D14	Extended travel distance from the point of discharge of the required non-fire isolated stairway serving the Class 2 & 7a parts exceeding 15m and 20m, respectively, being up to ~24m.

NOTE – The preparation of any Performance Solution is to be prepared in accordance with A2G2(4) of the BCA

6. Detailed Assessment

A detailed assessment of the proposed scope of works in the context of the applicable Deemed to Satisfy provisions of the Building Code of Australia (BCA) has been undertaken, as outlined below.

The status of compliance against each applicable BCA clause assessed has adopted the following abbreviations-

C	Complies. The proposed design satisfies the requirements of the BCA clause.
CRA	Compliance readily achievable. There is insufficient information to determine that the proposed design satisfies all requirements of the BCA clause, however, may be satisfied by minor design amendments and/or design development.
DNC	Does not Comply. The proposed design does not satisfy the requirements of the BCA clause.
FIR	Further Information Required. There is insufficient information to undertake a detailed assessment of the proposed design against the BCA clause.
PS	Addressed by way of a Performance Solution prepared in accordance with A2G2 of the BCA.
PPS	Potential for Performance Solution prepared in accordance with A2G2 of the BCA.
Note	Information is provided to guide the reader and not as specific assessment of the BCA clause.
N/A	Not applicable. The requirements of the BCA clause do not apply.

SECTION B: STRUCTURE			
Part B1 – Structural Provisions			
BCA Clause		Comment/s	Status
B1D2	Resistance to Actions	The resistance of a building or structure shall be greater than the most critical action effect resulting from different combinations of actions, determined in accordance with B1D3 of the BCA, AS/NZS 1170.0-2002 and B1D4 of the BCA.	CRA
B1D3	Determination of Individual Actions	The structural design of the building is required to be determined in accordance with the varying “actions” considerations contained within this clause (i.e., permanent actions, imposed actions, wind / snow / earthquake actions).	Note
B1D4	Determination of Structural Resistance of Materials and Forms of Construction	The structural resistance of materials and forms of construction shall be determined in accordance with the following – ▪ Masonry - AS3700-2018 ▪ Concrete construction - AS3600-2018 ▪ Footings and slabs – AS2870-2011 ▪ Steel construction - AS4100-1998 or AS/NZS 4600-2005 ▪ Termite Risk Management - AS3660.1-2014 ▪ Piling - AS2159-2009 ▪ Glazed assemblies - AS2047-2014-amendments 1 & 2 (external), and/or AS1288-2006 (internal)	CRA
B1D5	Structural Software	Structural software used in computer aided design of a building or structure, that uses design criteria based on the Deemed-to-Satisfy Provisions of the BCA, including its referenced documents, for the design of steel or timber trussed roof and floor systems and framed building systems, must comply with the ABCB Protocol for Structural Software.	Note

Part B1 – Structural Provisions

BCA Clause		Comment/s	Status
B1D6	Construction of Buildings in Flood Hazard Areas	If the building is located in a flood hazard area, the building must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	CRA

SECTION C: FIRE RESISTANCE

Part C2 – Fire resistance and stability

BCA Clause		Comment/s	Status
C2D2	Type of construction required	(a) The building has been determined as being of Type A construction. (b) The building elements are required to achieve the nominated FRLs as nominated within Specification 5 of the BCA, as applicable to each Type of construction. (c) A summary of the general requirements and required FRL of building elements is contained within Annexure 2 of this report.	CRA
C2D3	Calculation of rise in storeys	The building has been determined as having a rise in storeys of 4.	Note
C2D4	Buildings of multiple classification	In a building of multiple classifications, the Type of construction required for the building is the most fire-resisting Type resulting from the application of Table C2D2 on the basis that the classification applying to the top storey applies to all storeys.	Note
C2D5	Mixed types of construction	The building has been determined as being of Type A construction, with no fire wall/s proposed for the separation of buildings, but rather to separate classifications into different fire compartments – see C3D9 & C3D10.	Note
C2D6	Two storey Class 2, 3 or 9c buildings	Not applicable.	N/A
C2D7	Class 4 parts of buildings	Not applicable.	N/A
C2D8	Open spectator stands and indoor sports stadiums	Not applicable.	N/A
C2D9	Lightweight construction	(1) Lightweight construction must comply with Specification 6 if it is used in a wall system— (a) that is required to have an FRL; or (b) for a lift shaft, stair shaft or service shaft or an external wall bounding a public corridor including a non-fire-isolated passageway or non-fire-isolated ramp. (2) If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (a) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (b) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.	Note

Part C2 – Fire resistance and stability

BCA Clause		Comment/s	Status
C2D10	Non-combustible building elements	(1) 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) Non-loadbearing internal walls where they are required to be fire-resisting. (2) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction. (3) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification 5 of the BCA. (4) The following elements need not be of non-combustible construction – (a) Gaskets. (b) Caulking. (c) Sealants. (d) Termite management systems (e) Glass, including laminated glass. (f) Thermal breaks associated with glazing systems. (g) Damp-proof courses. (h) Compressible fillers and backing materials, including those associated with articulation joints, closing gaps not wider than 50 mm. (i) Isolated— (i) construction packers and shims; or (ii) blocking for fixing fixtures; or (iii) fixings, including fixing accessories; or (iv) acoustic mounts. (j) Waterproofing materials applied to the external face, used below ground level and up to 250 mm above ground level. (k) Joint trims and joint reinforcing tape and mesh of a width not greater than 50 mm. (l) Weather sealing materials, applied to gaps not wider than 50 mm, used within and between concrete elements. (m) Wall ties and other masonry components complying with AS 2699 Part 1 and Part 3 as appropriate and associated with masonry wall construction. (n) Reinforcing bars and associated minor elements that are wholly or predominately encased in concrete or grout. (o) A paint, lacquer or a similar finish or coating. (p) Adhesives, including tapes, associated with stiffeners for cladding systems.	CRA

		(q) Fire-protective materials and components required for the protection of penetrations. (5) The following materials, when entirely composed of itself, are non-combustible and may be used wherever a non-combustible material is required – (a) Concrete. (b) Steel, including metallic coated steel. (c) Masonry, including mortar. (d) Aluminium, including aluminium alloy. (e) Autoclaved aerated concrete, including mortar. (f) Iron. (g) Terracotta. (h) Porcelain. (i) Ceramic. (j) Natural stone. (k) Copper. (l) Zinc. (m) Lead. (n) Bronze. (o) Brass. (6) The following materials may be used wherever a non-combustible material is required – (a) Plasterboard. (b) Perforated gypsum lath with a normal paper finish. (c) Fibrous-plaster sheet. (d) Fibre-reinforced cement sheeting. (e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (f) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (g) Bonded laminated materials where— (i) each lamina, including any core, is non-combustible; and (ii) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and (iii) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively; and (iv) when located externally, are fixed in accordance with C2D15.	
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Part C2 – Fire resistance and stability

BCA Clause			Comment/s	Status
C2D11	Fire properties	hazard	(1) The following fire hazard properties for internal linings, materials and assemblies must comply with Specification 7 of the BCA – (a) Floor linings and floor coverings. (b) Wall linings and ceiling linings. (c) Air-handling ductwork. (g) Sarking-type materials. (h) Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls. (i) Other materials including insulation materials other than sarking-type materials. Refer Annexure 4 for required fire hazard properties of internal linings, materials and assemblies. (2) Paint or fire-retardant coatings must not be used in order to make a material comply with a required fire hazard property, except in respect of a material referred to in NSW Specification 7, Table S7C4 and to which Notes 4 and 5 are applicable. (3) The requirements of this clause do not apply to a material or assembly if it is – (a) plaster, cement render, concrete, terrazzo, ceramic tile or the like; or (b) a fire-protective covering; or (c) a timber-framed window; or (d) a solid timber handrail or skirting; or (e) a timber-faced door; or (f) an electrical switch, socket-outlet, cover plate or the like; or (g) a material used for— (i) a roof insulating material applied in continuous contact with a substrate; or (ii) an adhesive; or (iii) a damp-proof course, flashing, caulking, sealing, ground moisture barrier, or the like; or (h) a paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer; or (i) a clear or translucent roof light of glass fibre-reinforced polyester if— (i) the roof in which it is installed forms part of a single storey building required to be Type C construction; and (ii) the material is used as part of the roof covering; and (iii) it is not closer than 1.5 m from another roof light of the same type; and (iv) each roof light is not more than 14 m² in area; and (v) the area of the roof lights per 70 m² of roof surface is not more than 14 m²; or	CRA

		(j) a face plate or neck adaptor of supply and return air outlets of an air handling system; or (k) a face plate or diffuser plate of light fitting and emergency exit signs and associated electrical wiring and electrical components; or (l) a joinery unit, cupboard, shelving, or the like; or (m) an attached non-building fixture and fitting such as— (i) a curtain, blind, or similar decor, other than— (A) a proscenium curtain required by Specification 32 of the BCA; or (B) in a Class 9b building used as an entertainment venue, a material regulated under NSW Table S7C4; and (ii) a whiteboard, window treatment or the like; or (n) timber treads, risers, landings and associated supporting framework installed in accordance with D3D30 where the Spread-of-Flame Index and the Smoke-Developed Index of the timber does not exceed 9 and 8 respectively; (o) any other material that does not significantly increase the hazards of fire.	
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Part C2 – Fire resistance and stability

BCA Clause		Comment/s	Status
C2D12	Performance of external walls in fire	Not applicable.	N/A
C2D13	Fire-protected timber: Concession	Fire protected timber may be used wherever an element is required to be non-combustible, provided – (a) the building is— (i) a separate building; or (ii) a part of a building— (A) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or (B) which is located above or below a part not containing fire-protected timber and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a fire wall for the lower storey; and (b) the building has an effective height of not more than 25 m; and (c) the building has a sprinkler system (other than a FPAA101D or FPAA101H system) throughout complying with Specification 17 of the BCA; and (d) any insulation installed in the cavity of the timber building element to have an FRL is non-combustible; and (e) cavity barriers are provided in accordance with Specification 9 of the BCA.	Note

Part C2 – Fire resistance and stability

BCA Clause		Comment/s	Status
C2D14	Ancillary elements	An ancillary element must not be fixed, installed, attached to or supported by the concealed internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following – (a) An ancillary element that is non-combustible. (b) A gutter, downpipe or other plumbing fixture or fitting. (c) A flashing. (d) A grate, grille or similar cover not more than 2 m² in area associated with a building service. (e) An electrical switch, socket-outlet, cover plate or the like. (f) A light fitting. (g) A required sign. (h) A sign other than one provided under (a) or (g) that— (i) achieves a group number of 1 or 2; and (ii) does not extend beyond one storey; and (iii) does not extend beyond one fire compartment; and (iv) is separated vertically from other signs permitted under (h) by at least 2 storeys. (i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— (i) meets the relevant requirements of Table S7C7 as for an internal element; and (ii) serves a storey— (A) at ground level; or (B) immediately above a storey at ground level; and (iii) does not serve an exit, where it would render the exit unusable in a fire. (j) A part of a security, intercom or announcement system. (k) Wiring. (l) Waterproofing material installed in accordance with AS 4654.2-2012 and applied to an adjacent floor surface, including vertical upturn, or a roof surface. (m) Collars, sleeves and insulation associated with service installations. (n) Screens applied to vents, weepholes and gaps complying with AS 3959-2018. (o) Wiper and brush seals associated with doors, windows or other openings. (p) A gasket, caulking, sealant or adhesive directly associated with (a) to (o). NOTE – The requirements of this clause do not apply to ancillary elements fixed, installed or attached to the internal face or lining of an external wall. Additionally, the requirements of this clause do not prevent the mounting of domestic air-conditioning condenser units on external walls.	CRA

Part C2 – Fire resistance and stability

BCA Clause		Comment/s	Status
C2D15	Fixing of bonded laminated cladding panels	(1) Externally located bonded laminated cladding panels must have all layers of cladding mechanically supported or restrained to the supporting frame. (2) An externally located bonded laminated cladding panel need not comply with the above requirements, if it is one of the following - (a) A laminated glass system. (b) Layered plasterboard product. (c) Perforated gypsum lath with a normal paper finish. (d) Fibrous-plaster sheet. (e) Fibre-reinforced cement sheeting. (f) A component of a garage door. NOTE - mechanical support or restraint means fixing that does not solely rely on chemical adhesive and includes concealed fixing systems such as cassette fixing, channel-type fixing and face fixing.	CRA

Part C3 – Compartmentation and separation

BCA Clause		Comment/s	Status
C3D3	General floor area and volume limitations	Referring to Section 2.6, it is identified that the fire compartments within the Class 6 and 7a parts are within the permitted tolerances for Type A construction under Table C3D3. Note - the requirements of this clause do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 of the BCA.	C

Table C3D3: Maximum size of fire compartments or atria

Classification	Type A construction	Type B construction	Type C construction
5, 9b or 9c	Max <i>floor area</i> —8 000 m ²	Max <i>floor area</i> —5 500 m ²	Max <i>floor area</i> —3 000 m ²
	Max <i>volume</i> —48 000 m ³	Max <i>volume</i> —33 000 m ³	Max <i>volume</i> —18 000 m ³
6, 7, 8 or 9a (except for <i>patient care areas</i>)	Max <i>floor area</i> —5 000 m ²	Max <i>floor area</i> —3 500 m ²	Max <i>floor area</i> —2 000 m ²
	Max <i>volume</i> —30 000 m ³	Max <i>volume</i> —21 000 m ³	Max <i>volume</i> —12 000 m ³

C3D4	Large isolated buildings	Not applicable.	N/A
C3D5	Requirements for open spaces and vehicular access	Not applicable.	N/A
C3D6	Class 9 buildings	Not applicable.	N/A

Part C3 – Compartmentation and separation

BCA Clause		Comment/s	Status
C3D7	Vertical separation of openings in external walls	Not applicable. The building is to be protected by a sprinkler system complying with Specification 17 of the BCA and AS2118.4-2012 installed throughout.	N/A
C3D8	Separation by fire walls	(1) Construction — A fire wall must be constructed in accordance with the following - (a) The fire wall has the relevant FRL prescribed by Specification 5 for each of the adjoining parts, and if these are different, the greater FRL. (b) Any openings in a fire wall must not reduce the FRL required by Specification 5 for the fire wall, except where permitted by the Deemed-to-Satisfy Provisions of Part C4. (c) Building elements, other than roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire-resisting performance of the fire wall is maintained. (2) Separation of fire compartments — A part of a building separated from the remainder of the building by a fire wall may be treated as a separate fire compartment if it is constructed in accordance with above and the fire wall extends to the underside of - (a) a floor having an FRL required for a fire wall; or (b) the roof covering.	CRA
C3D9	Separation of classifications in the same storey	It is noted that the basement and ground floor storeys are provided with different classifications in the same storey and hence must be separated by a fire wall having the higher FRL prescribed in accordance with Specification 5 between the classifications concerned, at each storey. The location of the fire wall/s are as indicated in the figure below.	CRA

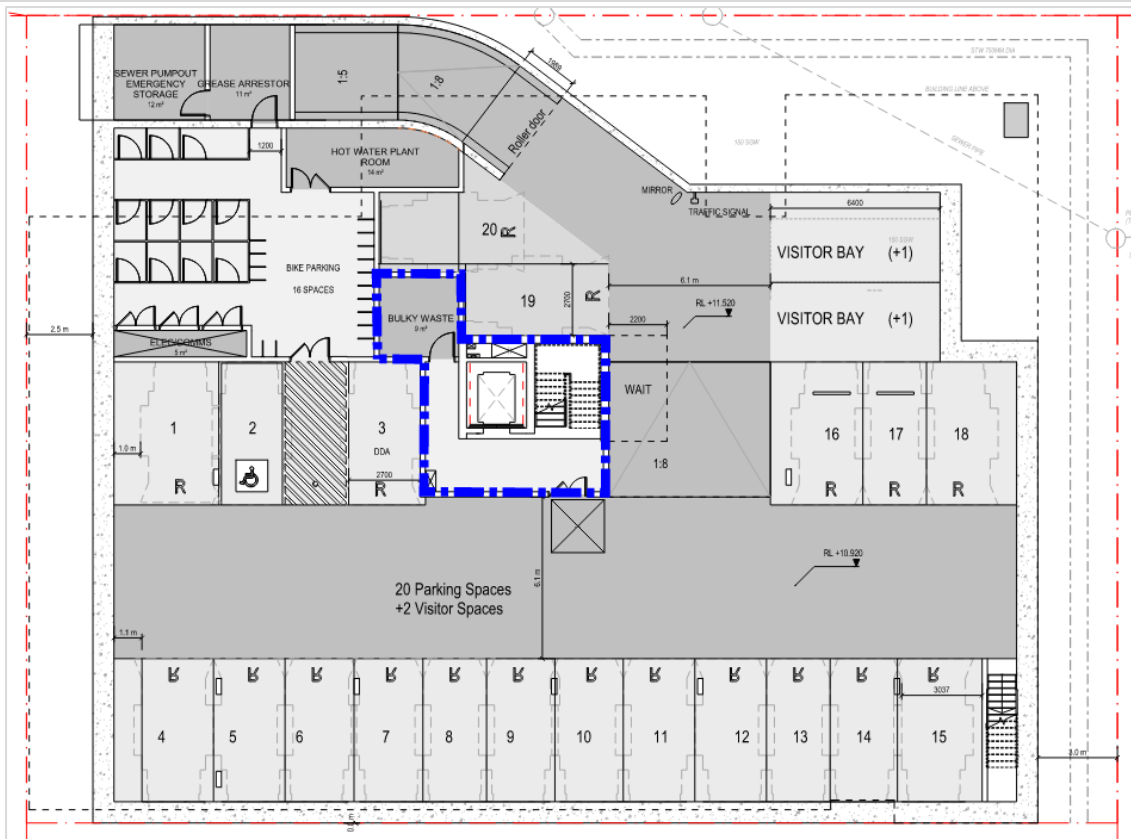


Figure 6.1 – Basement fire wall location/s

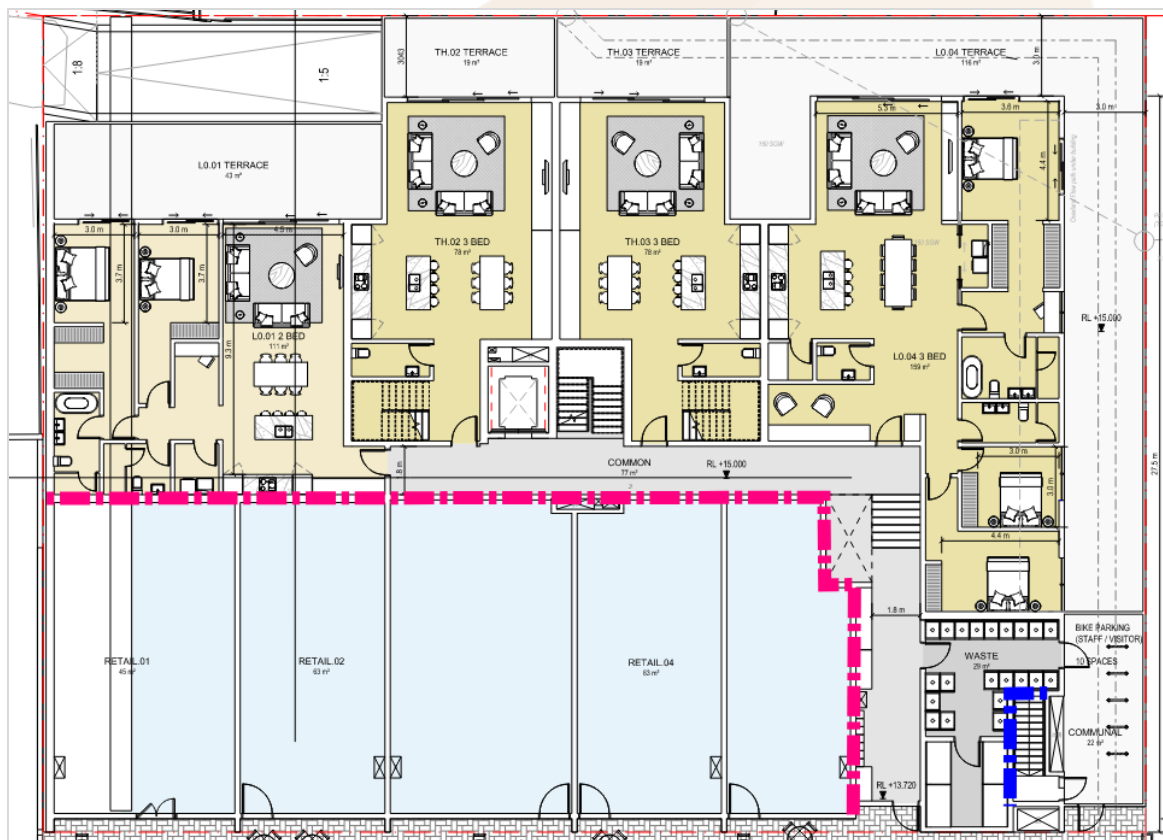


Figure 6.2 – Ground floor fire wall location/s

Part C3 – Compartmentation and separation

BCA Clause			Comment/s	Status
C3D10	Separation of classifications in different storeys		Parts of different classifications situated one above the other must be separated between the adjoining parts must have an FRL of not less than that prescribed in Specification 5 of the BCA for the classification of the lower storey.	CRA
C3D11	Separation of lift shafts		The passenger lift connecting all storeys must be separated from the remainder of the building by enclosure in a shaft in which the walls have the relevant FRL prescribed by Specification 5 of the BCA. Openings for lift landings doors and services must be protected in accordance with the DtS provisions of Part C4.	CRA
C3D12	Stairways and lifts in one shaft		Not applicable.	N/A
C3D13	Separation of equipment		(1) Equipment other than that described in (2) and (3) must be separated from the remainder of the building with construction complying with (4), if that equipment comprises - (a) lift motors and lift control panels; or (b) emergency generators used to sustain emergency equipment operating in the emergency mode; or (c) central smoke control plant; or (d) boilers; or (e) a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. (2) Equipment need not be separated in accordance with (1) if the equipment comprises - (a) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in (b) accordance with Specification 21 of the BCA; or (c) stair pressurising equipment installed in compliance with the relevant provisions of AS 1668.1-2015; or (d) a lift installation without a machine-room; or (e) equipment otherwise adequately separated from the remainder of the building. (3) Separation of on-site fire pumps must comply with the requirements of AS 2419.1-2021. (4) Separating construction must have— (a) except as provided by (b)— (i) an FRL as required by Specification 5 of the BCA, but not less than 120/120/120; and (ii) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (b) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–.	Note

Part C3 – Compartmentation and separation

BCA Clause			Comment/s	Status
C3D14	Electricity supply system		(1) An electricity substation located within a building must— (a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (2) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must— (a) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and (b) have any doorway in that construction protected with a self-closing fire door having an FRL of not less than –/120/30. (3) Subject to (4), electrical conductors must— (a) have a classification in accordance with AS/NZS 3013 of not less than— (i) if located in a position that could be subject to damage by motor vehicles — WS53W; or (ii) otherwise — WS52W; or (b) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120. (4) The requirements of (3) only apply to electrical conductors located within a building that supply— (a) a substation located within the building which supplies a main switchboard covered by (2); or (b) a main switchboard covered by (2). (5) Where emergency equipment is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear. (6) For the purposes of (5), emergency equipment includes but is not limited to the following: (a) Fire hydrant booster pumps. (b) Pumps for automatic sprinkler systems, water spray, chemical fluid suppression systems or the like. (c) Air handling systems designed to exhaust and control the spread of fire and smoke. (d) Emergency lifts. (e) Control and indicating equipment. (f) Emergency warning and intercom systems.	Note
C3D15	Public corridors in Class 2 and 3 buildings		The public corridors in the class 2 parts are identified as being less than 40 in length.	N/A

Part C4 – Protection of openings

BCA Clause	Comment/s	Status
C4D3	Protection of openings in external walls	Openings in external walls that are required to achieve an FRL (incl. openings in the plane formed at the construction edge of the building) along the northern and southern elevations of the building are identified as being located less than 3m from side boundaries. Notwithstanding the above, openings in an external wall that is required to have an FRL must be protected in accordance with C4D5, and if wall-wetting sprinklers are used, they must be located externally.

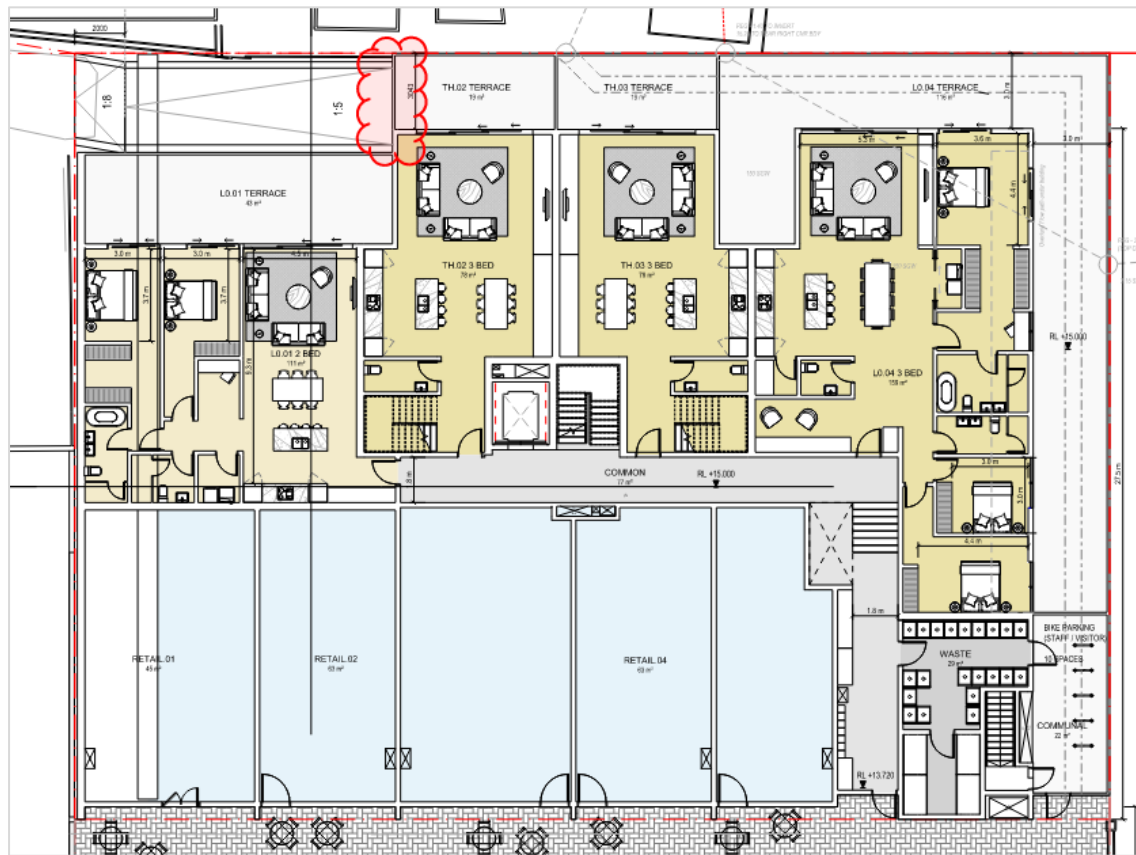
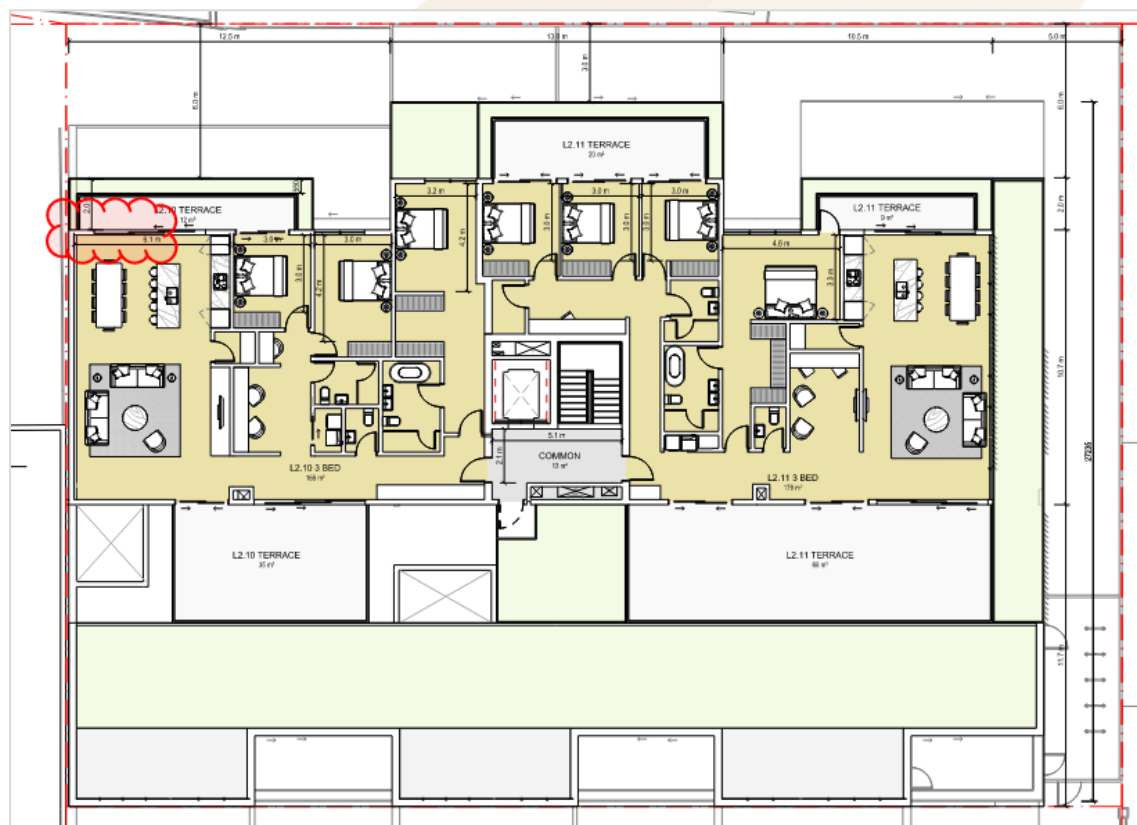
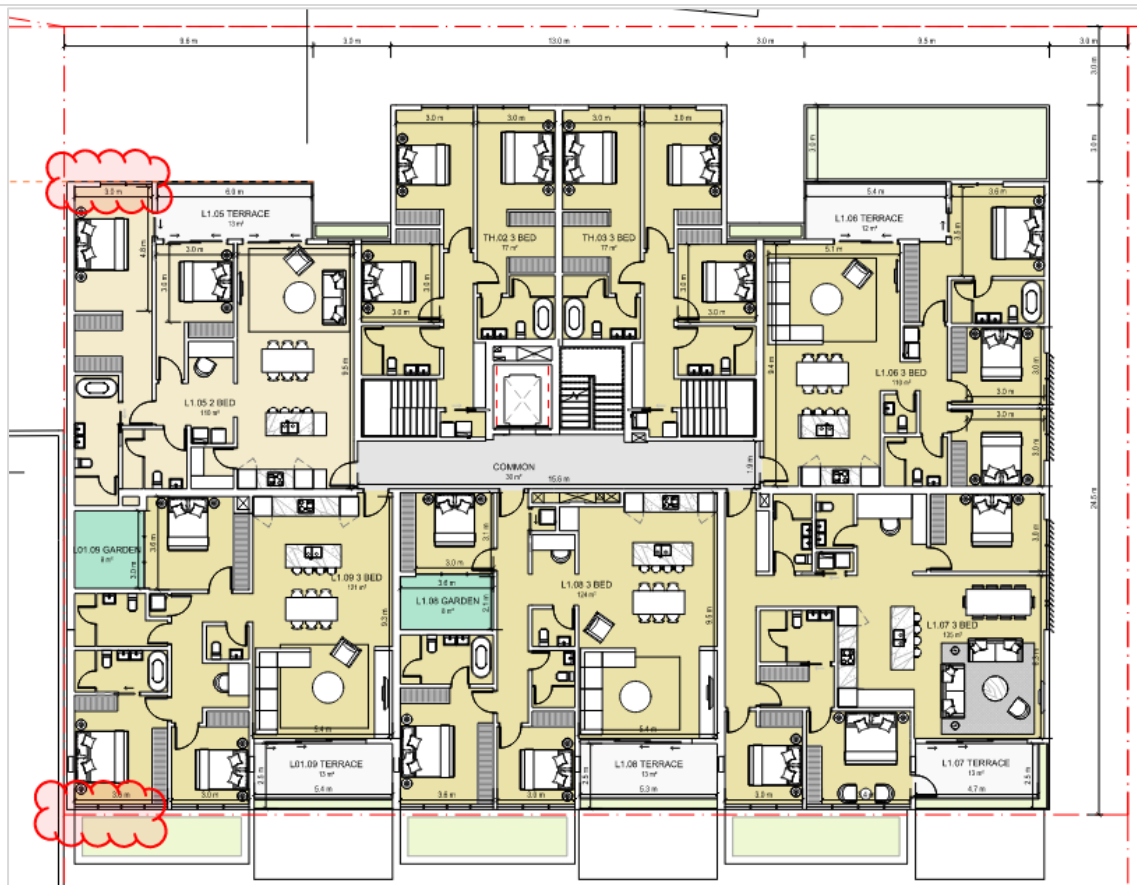


Figure 6.3 – Ground level



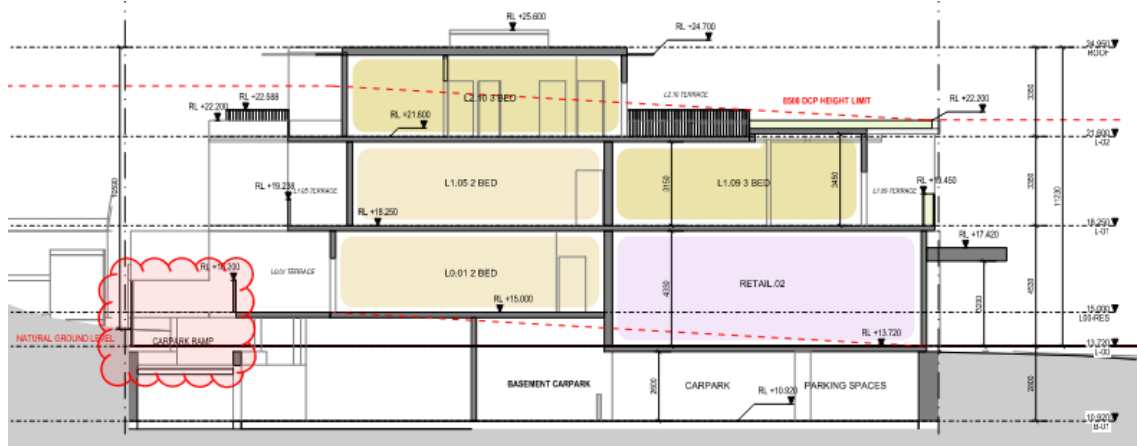


Figure 6.6 – Section view

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D4	Separation of external walls and associated openings in different fire compartments	Parts of the external walls and openings in different fire compartments separated by a fire wall at the ground floor storey are identified as being located less than 4m apart. Notwithstanding the above, the distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must not be less than that set out in Table C4D4, unless – (a) those parts of each wall have an FRL not less than 60/60/60; and (b) any openings are protected in accordance with C4D5.	CRA / PPS

Table C4D4: Distance between external walls and associated openings in different fire compartments

Angle between walls	Minimum distance (m)
0° (walls opposite)	6
more than 0° to 45°	5
more than 45° to 90°	4
more than 90° to 135°	3
more than 135° to less than 180°	2
180° or more	Nil

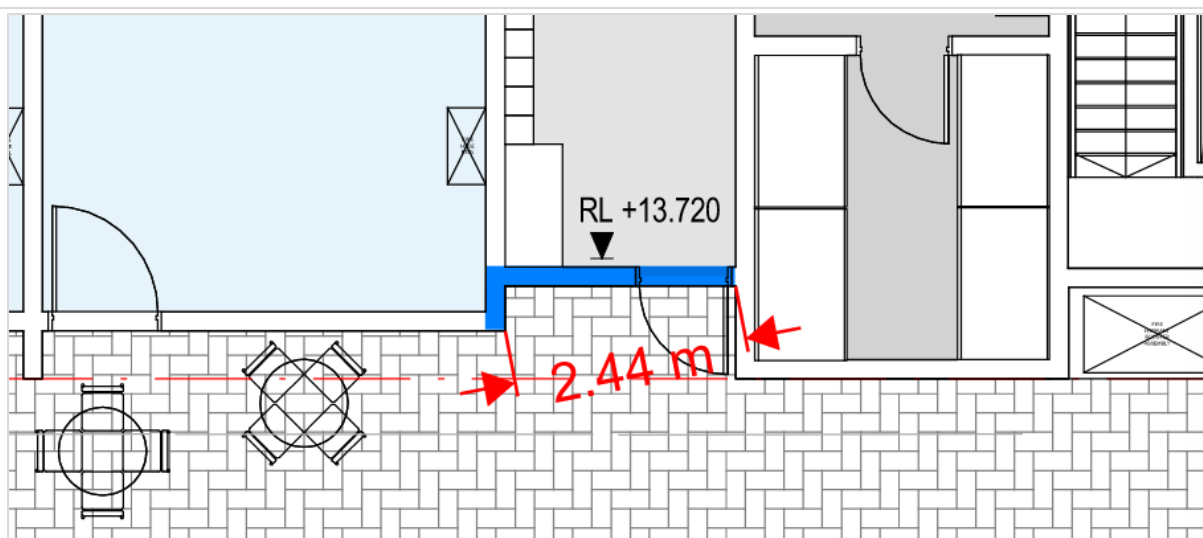


Figure 6.7 – Openings in different fire compartments

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D5	Acceptable methods of protection	(1) Where protection is required, doorways, windows and other openings must be protected as follows – (a) Doorways— (i) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (ii) –/60/30 fire doors that are self-closing or automatic closing. (b) Windows— (i) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (ii) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or (iii) –/60/– automatic closing fire shutters. (c) Other openings— (i) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (ii) construction having an FRL not less than –/60/–. (2) Fire doors, fire windows and fire shutters must comply with Specification 12 of the BCA.	Note

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D6	Doorways in fire walls	(1) The aggregate width of openings for doorways in a fire wall, which are not part of a horizontal exit, must not exceed $\frac{1}{2}$ of the length of the fire wall, and each doorway must be protected by - (a) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of not less than $\frac{1}{2}$ that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30; or (b) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (a); or (c) a single fire door or fire shutter which has an FRL of not less than that required by Specification 5 for the fire wall except that each door or shutter must have an insulation level of at least 30. (2) A fire door or fire shutter required by (1)(a), (b) or (c) must be self-closing, or automatic closing in accordance with (3) and (4). (3) The automatic closing operation required by (2) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1-2018 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1-2018 and located on each side of the fire wall not more than 1.5m horizontal distance from the opening. (4) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17 of the BCA, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.	CRA
C4D7	Sliding fire doors	Not applicable.	N/A
C4D8	Protection of doorways in horizontal exits	Not applicable.	N/A
C4D9	Openings in fire-isolated exits	Not applicable.	N/A
C4D10	Service penetrations in fire-isolated exits	Not applicable.	N/A

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D11	Openings in fire isolated lift shafts	(1) Doorways — If a lift shaft is required to be fire-isolated, an entrance doorway to that shaft must be protected by –/60/– fire doors that— (a) comply with AS 1735.11-1986; and (b) are set to remain closed except when discharging or receiving passengers, goods or vehicles. (2) Lift indicator panels — A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than –/60/60 if it exceeds 35 000 mm² in area.	CRA
C4D12	Bounding construction: Class 2 and 3 buildings and Class 4 parts	(1) A doorway in the Class 2 parts must be protected if it provides access from a sole-occupancy unit to – (a) a public corridor, public lobby, or the like; or (b) a room not within a sole-occupancy unit; or (c) the landing of an internal non-fire-isolated stairway that serves as a required exit; or (d) another sole-occupancy unit. (2) A doorway in the Class 2 parts must be protected if it provides access from a room not within a sole-occupancy unit to— (a) a public corridor, public lobby, or the like; or (b) the landing of an internal non-fire-isolated stairway that serves as a required exit. (3) Protection for a doorway must be at least a self-closing –/60/30 fire door; and (4) Other openings in internal walls which are required to have an FRL with respect to integrity and insulation must not reduce the fire-resisting performance of the wall. (5) A door required by (3) may be automatic-closing in accordance with the following – (a) The automatic-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1-2018 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1-2018 and located not more than 1.5 m horizontal distance from the approach side of the doorway. (b) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification 17, is installed in the building, activation of the system must also initiate the automatic-closing operation.	CRA

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D13	Openings in floors and ceilings for services	(1) Where a service passes through— (a) a floor that is required to have an FRL with respect to integrity and insulation; or (b) a ceiling required to have a resistance to the incipient spread of fire, the service must be protected – (a) by a shaft that will not reduce the fire performance of the building elements it penetrates; or (b) in accordance with C4D15. (2) Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.	CRA
C4D14	Openings in shafts	An opening in wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by – (a) if it is in a sanitary compartment – a door or panel which, together with its frame, is non-combustible or has an FRL of not less than --/30/30; or (b) a self-closing --/60/30 fire door or hopper; or (c) an access panel having an FRL of not less than --/60/30; or (d) if the shaft is a garbage shaft – a door or hopper of non-combustible construction.	CRA
C4D15	Openings for service installations	Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with one of the following – (a) Tested systems. (b) Ventilation and air conditioning - in the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS 1668.1-2015. (c) Compliance with Specification 13 of the BCA.	CRA
C4D16	Construction joints	(1) Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner - (a) identical with a prototype tested in accordance with AS 4072.1-2005 and AS 1530.4-2014 to achieve the required FRL; or (b) that differs from a prototype in accordance with Section 4 of AS 4072.1-2005 and achieves the required FRL. (2) The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Specifications 1 and 2. (3) The requirements above do not apply where joints, spaces and the like between fire protected timber elements are provided with cavity barriers in accordance with Specification 9 of the BCA.	CRA

Part C4 – Protection of openings

BCA Clause		Comment/s	Status
C4D17	Columns protected with lightweight construction to achieve an FRL	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.	CRA

SECTION D: ACCESS AND EGRESS

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D3	Number of exits	All parts of the building are identified as being provided with access to at least two exits from each storey, as required.	C
D2D4	When fire isolated stairways and ramps are required	The centrally located required stairway has been assessed as non-fire isolated based on the following – (a) The stairway connects 3 consecutive storeys in the Class 2 parts of the building and an extra storey in the basement storey, which achieves a Class 2 and 7a classification. (b) The building is to be protected by a sprinkler system complying with Specification 17 of the BCA and AS2118.4-2012. (c) The Class 6 part/s will be separated from the Class 2 part at the ground floor storey by a fire wall complying with C3D8, with no direct internal connection provided between the Class 2 and 6 parts at the ground floor storey.	Note
D2D5	Exit travel distances	Extended exit travel distances are identified as occurring at the following locations - (a) The travel distance from the furthest points of the basement storey to a point of choice to alternative exits exceeds 20m, being up to ~29m. (b) The travel distance from the entrance doorway of Unit L0.01, located on the ground floor, to the exit exceeds 30m, being up to ~32m. Notwithstanding the above, the following must be complied with - Class 2 parts – (a) The entrance doorway of any sole occupancy unit must be not more than – (i) 12m from an exit or from a point which travel in different directions to 2 exits is available: or (ii) 30m from a single exit serving the storey at the level of egress to a road or open space. (b) No point on the floor which is not a sole occupancy unit must be more than 20m from an exit or from a point at which travel in different directions to 2 exits is available. Class 6 parts – (a) No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m; and (b) The distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30m. Class 7a parts – (a) No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40 m.	DNC / PPS

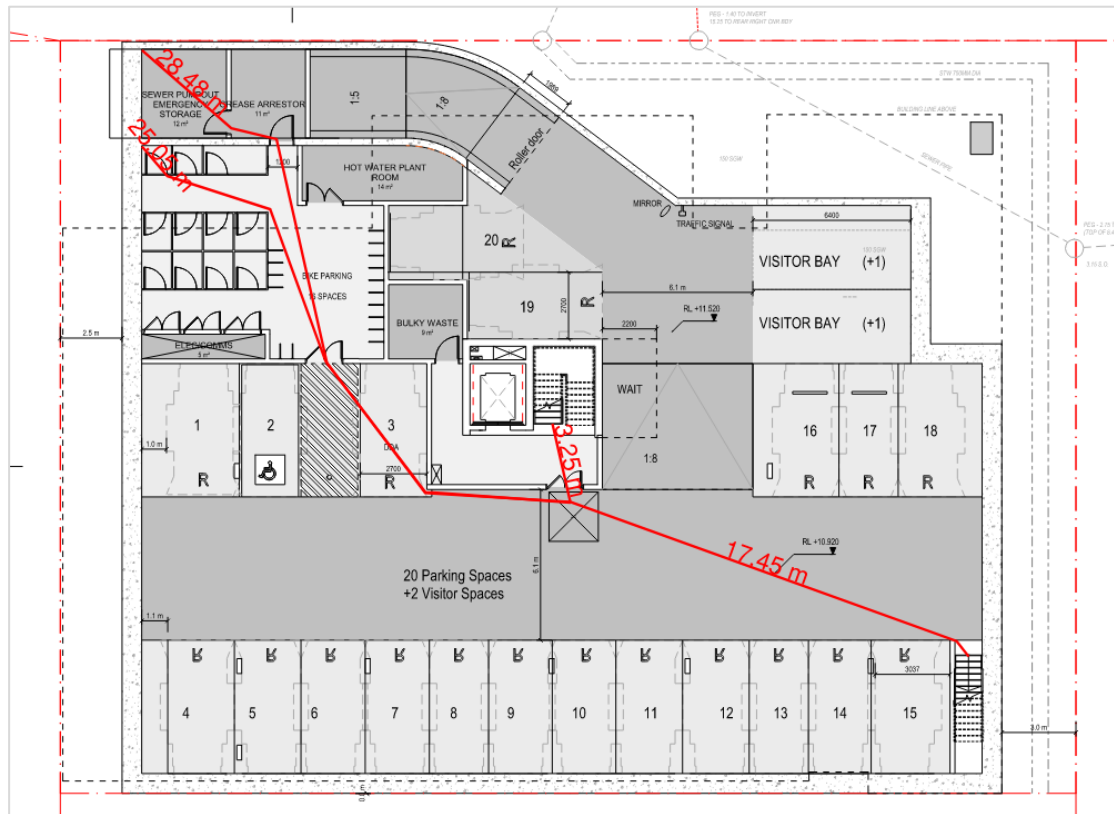


Figure 6.8 – Basement level

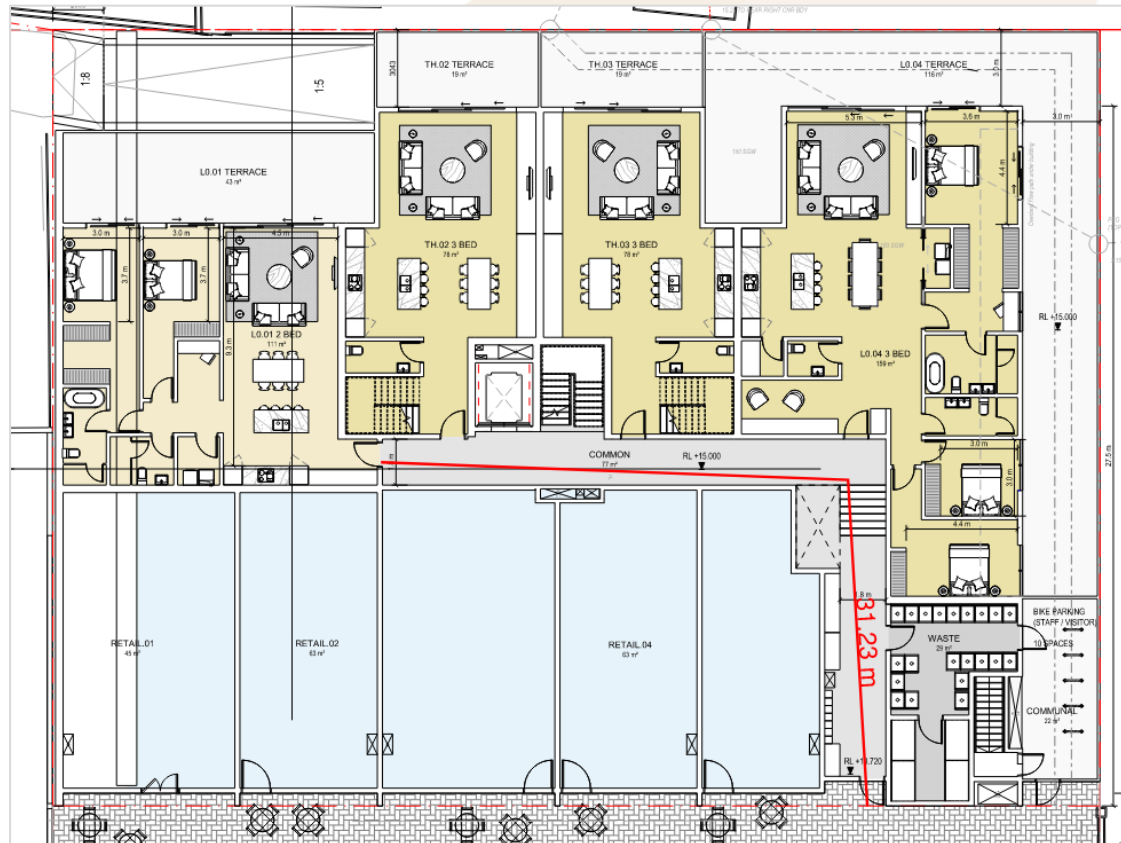


Figure 6.9 – Ground floor level

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D6	Distance between alternative exits	Exits that are required as alternative means of egress must be – (a) distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas; and (b) not less than 9 m apart; and (c) not more than 60m apart in all other cases; and (d) located so that alternative paths of travel do not converge such that they become less than 6 m apart.	C
D2D7	Heights of exits, paths of travel to exits and doorways	In a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm.	CRA
D2D8	Widths of exits and paths of travel to exits	The ground floor landing of the eastern stairway serving the basement level is identified as having a width of less than 1m, being ~950mm. Notwithstanding the above, the unobstructed width of each required exit or path of travel to an exit, except for doorways, must be not less than 1 m.	DNC

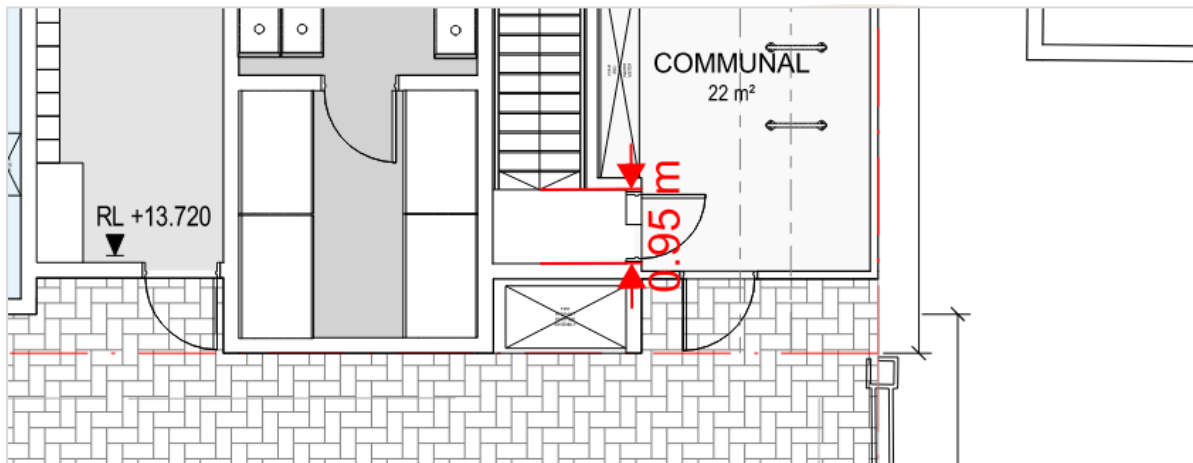


Figure 6.10 – Ground floor landing of eastern stairway

D2D9	Width of doorways in exit or paths of travel to exits	In a required exit or path of travel to a required exit, the unobstructed width of a doorway must be not less than – (a) The unobstructed width of each exit to comply with D2D8, minus 250mm; or (b) In any other case except where it opens to a sanitary compartment or bathroom – 750mm.	CRA
D2D10	Exit width not to diminish in direction of travel	The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space.	CRA

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D11	Determination and measurement of exits and paths of travel to exits	(1) The required width of a stairway or ramp in a required exit or path of travel to an exit must— (a) be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and (b) extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor surface of the ramp or landing. (2) To determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D2D18.	Note
D2D12	Travel via fire-isolated exits	Not applicable.	N/A
D2D13	External stairways or ramps in lieu of fire isolated exits	Not applicable.	N/A
D2D14	Travel by non-fire-isolated stairways or ramps	The travel distance from the point of discharge of the required non-fire isolated stairway serving the Class 2 & 7a parts exceeds 15m and 20m, respectively, being up to ~24m. Notwithstanding the above, the following must be complied with - (1) A non-fire-isolated stairway or non-fire-isolated ramp serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided. (2) In the Class 2 part – (a) the distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by way of a stairway that is not fire-isolated and is required to serve that room or sole-occupancy unit must not exceed 60m. (b) a required non-fire isolated stairway must discharge at a point not more than 15m from a doorway providing egress to a road or open space. (3) In the Class 7a part – (a) the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway must not exceed 80 m. (b) a required non-fire isolated stairway must discharge at a point not more than 20m from a doorway providing egress to a road or open space.	DNC / PPS

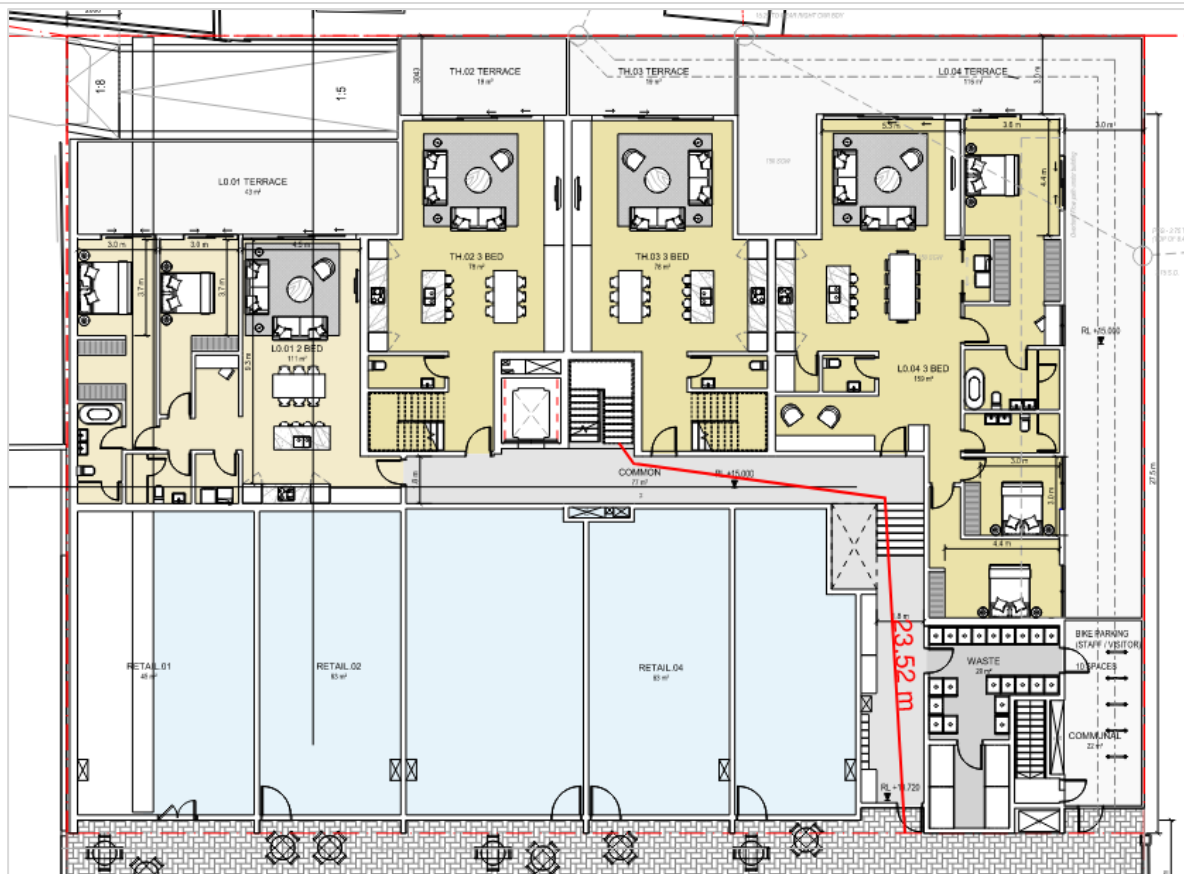


Figure 6.11 – Ground floor

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D15	Discharge from exits	(1) An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit, or access to it. (2) If a required exit leads to an open space, the path of travel to the road must have an unobstructed width throughout of not less than— (a) the minimum width of the required exit; or (b) 1 m, whichever is the greater. (3) If an exit discharges to open space that is at a different level than the public road to which it is connected, the path of travel to the road must be by - a ramp or other incline having a gradient not steeper than 1:8 at any part, or not steeper than 1:14 if required by the Deemed-to-Satisfy Provisions of Part D4; or (4) The discharge point of alternative exits must be located as far apart as practical.	CRA

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D16	Horizontal exits	Not applicable. The building is not required to be provided with fire compartments required by C3D6(2).	N/A
D2D17	Non-required stairways, ramps or escalators	A non-required stairway non-fire isolated stairway must not connect more than 2 consecutive storeys, provided one of the storeys is situated at a level at which there is direct egress to a road or open space.	Note
D2D18	Number of persons accommodated	Clause relates to method of calculating number of persons accommodated in a storey, room or mezzanine.	Note
D2D19	Measurement of distances	Clause relates to method of measurement in determining travel distance.	Note
D2D20	Method of measurement	Clause relates to method of measurement in determining travel distance.	Note
D2D21	Plant rooms, lift machine rooms and electricity network substations: concession	(1) A ladder may be used in lieu of a stairway to provide egress from - (a) a plant room with a floor area of not more than 100 m²; or (b) all but one point of egress from a plant room, a lift machine room or a Class 8 electricity network substation with a floor area of not more than 200 m². (2) A ladder permitted under (1) - (a) may— (i) form part of an exit provided that in the case of a fire-isolated stairway it is contained within the shaft; or (ii) discharge within a storey in which case it must be considered as forming part of the path of travel; and (b) for a plant room or a Class 8 electricity network substation, must comply with AS 1657-2018; and (c) for a lift machine room, where access is provided from within a machine room to a secondary floor, a fixed rung type ladder complying with AS 1657-2018 may be used, provided that— (i) the height between the floors is not more than 2800 mm; and (ii) the ladder is inclined at an angle to the horizontal not less than 65 degrees nor more than 75 degrees; and (iii) the distance between the front face of the ladder and any adjacent obstruction is not less than— (A) 960 mm, where the ladder is inclined 65 degrees to the horizontal; or (B) 760 mm, where the ladder is inclined 75 degrees to the horizontal; or (C) a distance that is determined by interpolating the values in (A) and (B), where the ladder is inclined at any angle between 65 degrees and 75 degrees to the horizontal; and (iv) a clear space not less than 600 mm exists between the foot of the ladder and any equipment.	Note

Part D2 – Provision for escape

BCA Clause		Comment/s	Status
D2D22	Access to lift pits	Access to lift pits must – (a) where the pit depth is not more than 3 m, be through the lowest landing doors; or (b) where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) In lieu of D2D7 to D2D11, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657-2018. (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”	CRA
D2D23	Egress from primary schools	Not applicable.	N/A

Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D3	Fire isolated stairways and ramps	Not applicable.	N/A
D3D4	Non-fire isolated stairways and ramps	Required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed of non-combustible construction, or only of – (a) reinforced or prestressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m³ at a moisture content of 12%; and (iii) has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.	N/A
D3D5	Separation of rising and descending stair flights	Not applicable.	N/A

Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D6	Open access ramps and balconies	Not applicable.	N/A
D3D7	Smoke lobbies	Not applicable.	N/A
D3D8	Installations in exits and paths of travel	(1) An opening to any chute or duct intended to convey hot products of combustion from a boiler, incinerator, fireplace or the like, must not be located in any part of a required exit or any corridor, hallway, lobby or the like leading to a required exit. (2) Gas or other fuel services must not be installed in a required exit. (3) Services or equipment enclosed in accordance with (4) may be installed in a required exit, or in any corridor, hallway, lobby or the like leading to a required exit, where that service or equipment comprises - (a) electricity meters, distribution boards or ducts; or (b) central telecommunications distribution boards or equipment; or (c) electrical motors or other motors serving equipment in the building. (4) An enclosure for the purposes of (3) must be suitably sealed against smoke spreading from the enclosure and be - (a) non-combustible construction; or (b) a fire-protective covering.	CRA
D3D9	Enclosure of space under stairs and ramps	Not applicable.	N/A
D3D10	Width of required stairways and ramps	Not applicable.	N/A
D3D11	Pedestrian ramps	Not applicable.	N/A
D3D12	Fire isolated passageways	Not applicable.	N/A
D3D13	Roof as open space	Not applicable.	N/A

Part D3 – Construction of exits

BCA Clause			Comment/s	Status
D3D14	Goings and risers		A stairway must have – (a) not more than 18 and not less than 2 risers in each flight; and (b) going (G), riser (R) and quantity (2R + G) in accordance with Table D3D14; and (c) constant goings and risers throughout each flight, and the dimensions of goings (G) and risers (R) are considered constant if the variation between— (i) adjacent risers, or between adjacent goings, is no greater than 5 mm; and (ii) the largest and smallest riser within a flight, or the largest and smallest going within a flight, does not exceed 10 mm; and (d) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (e) treads which have— (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013; or (ii) a nosing strip with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013.	CRA

Table D3D14: Riser and going dimensions

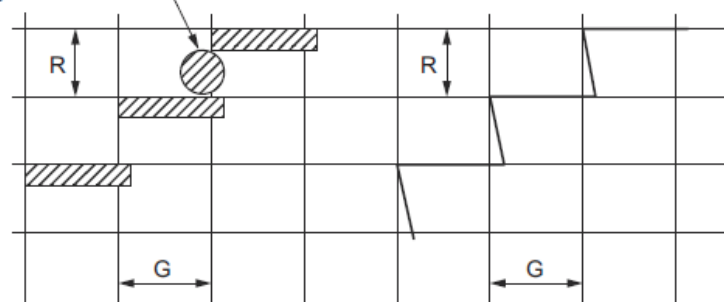
Stairway location	Riser (R)		Going (G) ^{Note 3}		Quantity (2R + G)	
	Max	Min	Max	Min	Max	Min
Public	190	115	355	250	700	550
Private ^{Note 1}	190	115	355	240	700	550

Table Notes

- (1) Private stairways are—
 - (a) stairways in a *sole-occupancy unit* in a Class 2 building or Class 4 part of a building; and
 - (b) in any building, stairways which are not part of a *required exit* and to which the public do not normally have access.
- (2) *Going* and *riser* dimensions must be measured in accordance with Figure D3D14.
- (3) The *going* in tapered treads (except *winders* in lieu of a quarter or half *landing*) in a curved or spiral stairway is measured—
 - (a) 270 mm in from the outer side of the unobstructed width of the stairway if the stairway is less than 1 m wide (applicable to a non-*required* stairway only); and
 - (b) 270 mm from each side of the unobstructed width of the stairway if the stairway is 1 m wide or more.

Figure D3D14: Riser and going dimensions

125 mm sphere must not pass through treads



Part D3 – Construction of exits

BCA Clause		Comment/s	Status															
D3D15	Landings	In a stairway, landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each flight and each landing must - (a) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (b) have - (i) a surface with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013; or (ii) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D3D15 when tested in accordance with AS 4586-2013, where the edge leads to a flight below.	CRA															
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 <i>landing</i> surface</td><td>P3 or R10</td><td>P4 or R11</td></tr><tr><td>Nosing or <i>landing</i> 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 <i>landing</i> surface	P3 or R10	P4 or R11	Nosing or <i>landing</i> edge strip	P3	P4
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 <i>landing</i> surface	P3 or R10	P4 or R11																
Nosing or <i>landing</i> edge strip	P3	P4																
D3D16	Thresholds	The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless - (a) in a building required to be accessible by Part D4, the doorway— (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1-2009; or (b) in other cases— (i) the doorway opens to a road or open space, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.	CRA															
D3D17	Barrier to prevent falls	(1) A continuous barrier must be provided along the side of — (a) a roof to which general access is provided; and (b) a stairway or ramp; and (c) a floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and (d) any delineated path of access to a building, if the trafficable surface is 1 m or more above the surface beneath. (2) A barrier required by (1) must be constructed in accordance with D3D18, D3D19, D3D20 and, if a wire barrier is used, D3D21.	CRA															

Part D3 – Construction of exits

BCA Clause			Comment/s	Status
D3D18	Heights of barriers	of	The height of barriers or balustrades within the several unit balconies are identified as being less than 1m above the floor level. Notwithstanding the above, the following must be complied with - (1) The height of a barrier required by D3D17 must be not less than the following: (a) For stairways or ramps with a gradient of 1:20 or steeper — 865 mm. (b) For landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length — 865 mm. (c) For all other locations – 1m. (2) For a barrier provided under (1) — (a) barrier heights are measured vertically from the surface beneath, except that for stairways the height must be measured above the nosing line of the stair treads; and (b) a transition zone may be incorporated where the barrier height changes from 865 mm on a stair flight or ramp to 1 m at a landing or floor.	DNC

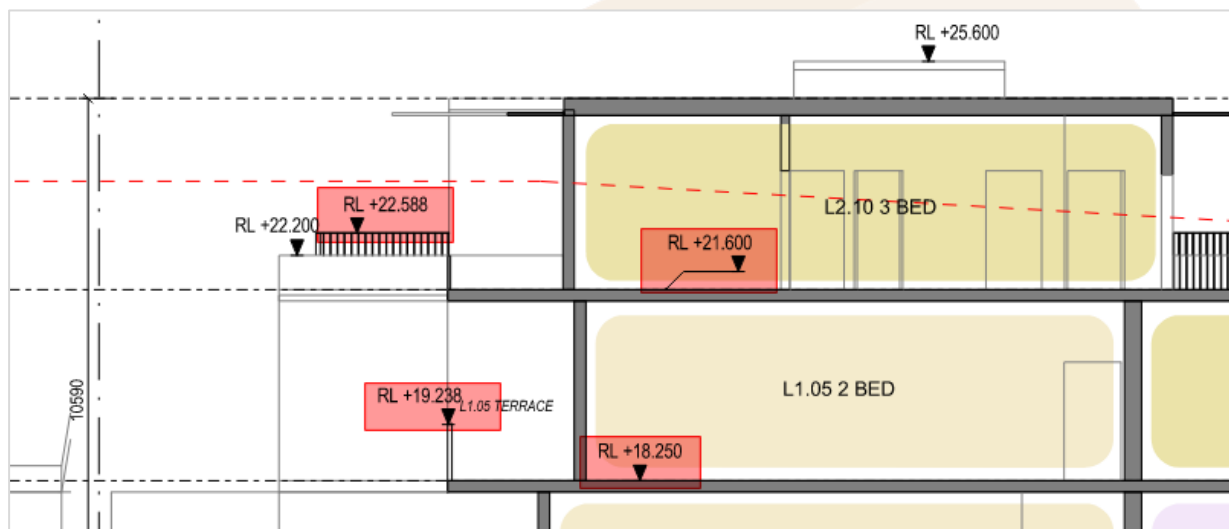


Figure 6.12 – Heights of balustrades

Part D3 – Construction of exits

BCA Clause			Comment/s	Status
D3D19	Openings in barriers		(1) Except where allowed by (2), openings in a required barrier must not allow a 125 mm sphere to pass through. (2) For a barrier provided under (1), the maximum 125 mm barrier opening for a stairway, such as a non-fire-isolated stairway, is measured above the nosing line of the stair treads. (3) Where a required barrier is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the barrier and the face must not exceed 40 mm. (4) For the purposes of (3), the opening is measured horizontally from the edge of the trafficable surface to the nearest internal face of the barrier	CRA
D3D20	Barrier climbability		(1) A barrier required by D3D17, located on a floor more than 4 m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing between 150 mm and 760 mm above the floor. (2) The requirements of (1) do not apply to – fire-isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, other than external stairways and external ramps.	CRA
D3D21	Wire barriers		Where a required barrier is constructed of wire, it is deemed to meet the requirement of D3D19(1) if it is constructed in accordance with the requirements of this clause.	Note
D3D22	Handrails		(1) Except for handrails referred to in D3D23, and subject to (2), handrails must— (a) be located along at least one side of the ramp or flight; and (b) be located along each side if the total width of the stairway or ramp is 2 m or more; and (c) in any other case, be fixed at a height of not less than 865 mm; and (d) be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold; and (e) in a required exit serving an area required to be accessible, be designed and constructed to comply with clause 12 of AS 1428.1-2009, except that clause 12(d) does not apply to a handrail required by (1)(c)(ii). (2) The height required by (1)(c) and (d) is measured above the nosings of stair treads and the floor surface of the ramp, landing or the like. (3) Handrails required to assist people with a disability must be provided in accordance with D4D4.	CRA

Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D23	Fixed platforms, walkways, stairways and ladders	A fixed platform, walkway, stairway, ladder and any going and riser, landing, handrail or barrier attached thereto may comply with AS 1657-2018 in lieu of D3D14, D3D16, D3D17, D3D18, D3D19, D3D20, D3D21 and D3D22 if it only serves — machinery rooms, boiler houses, lift-machine rooms, plant-rooms, and the like.	Note
D3D24	Doorways and doors	(1) A doorway serving as a required exit or forming part of a required exit — (a) must not be fitted with a revolving door; and (b) must not be fitted with a roller shutter or tilt-up door unless - (i) it serves a Class 6, 7 or 8 part with a floor area not more than 200 m²; and (ii) the doorway is the only required exit from the building or part; and (iii) it is held in the open position while the building or part is lawfully occupied; and (c) must not be fitted with a sliding door unless - (i) it leads directly to a road or open space; and (ii) the door is able to be opened manually under a force of not more than 110 N; and (d) if fitted with a door which is power-operated - (i) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and (ii) if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. (2) A power-operated door in a path of travel to a required exit, 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.	CRA
D3D25	Swinging doors	A swinging door in a required exit or forming part of a required exit— (a) must not encroach - (i) at any part of its swing by more than 500 mm on the required width (including any landings) of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit. (ii) when fully open, by more than 100 mm on the required width of the required exit; and (b) must swing in the direction of egress unless— (i) it serves a building or part with a floor area not more than 200 m², it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or (ii) it serves a sanitary compartment or airlock (in which case it may swing in either direction); and (c) must not otherwise impede the path or direction of egress.	CRA

Part D3 – Construction of exits

BCA Clause			Comment/s	Status
D3D26	Operation latch	of	(1) A door in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by— (a) a single hand downward action on a single device which is located between 900 mm and 1.1 m from the floor and if serving an area required to be accessible by Part D4— (i) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and (ii) have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35 mm and not more than 45 mm; or (b) a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor; and (2) Where the latch operation device referred to in (ii) is not located on the door leaf itself— (a) manual controls to power-operated doors must be at least 25 mm wide, proud of the surrounding surface and located— (i) not less than 500 mm from an internal corner; and (ii) for a hinged door, between 1 m and 2 m from the door leaf in any position; and (iii) for a sliding door, within 2 m of the doorway and clear of a surface mounted door in the open position. (b) braille and tactile signage complying with S15C3 and S15C6 must identify the latch operation device. (3) The requirements of (1) and (2) do not apply to a door that— (a) serves a vault, strong-room, sanitary compartment, or the like; or (b) serves only, or is within a Class 2 sole occupancy unit; or (c) serves only, or is within a sole-occupancy unit with a floor area not more than 200 m² in a Class 6, 7 or 8 part of the building; or (d) serves only, or is within a space which is otherwise inaccessible to persons at all times when the door is locked; or (e) is fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system (other than a FPAA101D system) complying with Specification 17 or smoke, or any other detector system deemed suitable in accordance with AS 1670.1-2018 installed throughout the building, and is readily openable when unlocked.	CRA

Part D3 – Construction of exits

BCA Clause		Comment/s	Status
D3D27	Re-entry from fire-isolated exits	Not applicable.	N/A
D3D28	Signs on doors	Not applicable.	N/A
D3D29	Protection of openable windows	(1) A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in— a bedroom in the Class 2 parts of the building. (2) Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening covered by (1) must comply with the following: (a) The openable portion of the window must be protected with— (i) a device capable of restricting the window opening; or (ii) a screen with secure fittings. (b) A device or screen required by (a) must— (i) not permit a 125 mm sphere to pass through the window opening or screen; and (ii) resist an outward horizontal action of 250 N against the— (A) window restrained by a device; or (B) screen protecting the opening; and (iii) have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden. (3) A barrier with a height not less than 865 mm above the floor is required to an openable window— (a) in addition to window protection, when a child resistant release mechanism is required by (2)(b)(iii); and (b) where the floor below the window is 4 m or more above the surface beneath if the window is not covered by (1). (4) A barrier covered by (3) must not— (a) permit a 125 mm sphere to pass through it; and (b) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing.	CRA
D3D30	Timber stairways: Concession	Not applicable.	N/A

SECTION E: SERVICES AND EQUIPMENT

Part E1 – Firefighting equipment

BCA Clause		Comment/s	Status
E1D2	Fire hydrants	The building is required to be provided with a fire hydrant system complying with AS2419.1-2021.	CRA
E1D3	Fire hose reels	(1) A fire hose reel system complying with AS2441-2005 must be provided to serve the whole building, excluding the Class 2 parts. (2) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system - (a) Fire hose reels must be located adjacent to an internal fire hydrant. except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved. (b) Fire hose reels must be located within 4 m of an exit, except that a fire hose reel need not be located adjacent to every exit, provided system coverage can be achieved. (c) Where system coverage is not achieved by compliance with (a) and (b), additional fire hose reels may be located in paths of travel to an exit to achieve the required coverage. (3) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except - doorways in walls referred to in C3D13 or C3D14 separating equipment or electrical supply systems.	CRA
E1D4	Sprinklers	A sprinkler system must – (a) be installed in a building or part of a building when required by E1D5 to E1D13 as applicable; and (b) comply with Specification 17 and Specification 18 as applicable.	CRA
E1D5	Where sprinklers are required: all classifications	Not applicable.	N/A
E1D6	Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	The building is required to be provided with sprinklers throughout the whole building based on the building having a rise in storeys of 4. The sprinkler system is to be provided in accordance with Specification 17 and Specification 18, as applicable. NOTE – A FPAA101D sprinkler system cannot be used.	CRA
E1D7	Where sprinklers are required: Class 3 building used as a residential care building	Not applicable.	N/A
E1D8	Where sprinklers are required: Class 6 building	Not applicable.	N/A

Part E1 – Firefighting equipment

BCA Clause		Comment/s	Status
E1D9	Where sprinklers are required: Class 7a building, other than an open-deck carpark	Not applicable.	N/A
E1D10	Where sprinklers are required: Class 9a health-care building used as a residential care building, Class 9c buildings	Not applicable.	N/A
E1D11	Where sprinklers are required: Class 9b buildings	Not applicable.	N/A
E1D12	Where sprinklers are required: additional requirements	Not applicable.	N/A
E1D13	Where sprinklers are required: occupancies of excessive hazard	Not applicable.	N/A
E1D14	Portable fire extinguishers	(1) Portable fire extinguishers must be selected, located and distributed in accordance with Section 1, 2,3 and 4 of AS2444-2001. (2) Where provided to serve the whole building, 2.5kg ABE type fire extinguishers must be distributed outside the sole occupancy units to serve only the storey at which they are located and so that the travel distance from the entry doorway of any sole occupancy unit to the nearest fire extinguisher is not more than 10m. (3) Portable fire extinguishers must be provided – (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 associated with the Class 2 parts of the building.	CRA
E1D15	Fire control centres	Not applicable.	N/A

Part E1 – Firefighting equipment

BCA Clause		Comment/s	Status
E1D16	Fire precautions during construction	In a building under construction – (a) not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit; and (b) after the building has reached an effective height of 12 m— (i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storeys; and (ii) any required booster connections must be installed.	Note
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 fire-fighting purposes.	Note

Part E2 – Smoke hazard management

BCA Clause		Comment/s	Status
E2D3	General requirements	An air-handling system which does not form part of a smoke hazard management system in accordance with E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must, be designed and installed— (a) to operate as a smoke control system in accordance with AS 1668.1-2015; or (b) such that it— (i) incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and (ii) is arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1-2018.	CRA
E2D4	Fire-isolated exits	Not applicable.	N/A
E2D5	Buildings more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building	Not applicable.	N/A
E2D6	Buildings more than 25m in effective height: Class 5, 6, 7b, 8 or 9b buildings	Not applicable.	N/A

Part E2 – Smoke hazard management

BCA Clause		Comment/s	Status
E2D7	Buildings more than 25m in effective height: Class 9a buildings	Not applicable.	N/A
E2D8	Buildings not more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building	The Class 2 building must be provided with an automatic smoke detection and alarm system complying with Specification 20 of the BCA, being one of the following – (a) A smoke alarm system complying with S20C3; or (b) A smoke detection system complying with S20C4; or (c) A combination of a smoke alarm system and a smoke detections system complying with S20C5.	CRA
E2D9	Buildings not more than 25m in effective height: Class 5, 6, 7b 8 and 9b buildings	The building is to be provided with one of the following systems – (a) an automatic smoke detection and alarm system complying with Specification 20; or (b) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17.	CRA
E2D10	Buildings not more than 25m in effective height: large isolated buildings subject to C3D4	Not applicable.	N/A
E2D11	Buildings not more than 25m in effective height: Class 9a and 9c buildings	Not applicable.	N/A
E2D12	Class 7a buildings	Where a mechanical ventilation system is provided within the Class 7a carpark in accordance with AS1668.2-2012, the mechanical ventilation system must comply with clause 5.5 of AS1668.1-2015.	CRA
E2D13	Basements (other than Class 7a buildings)	Not applicable.	N/A
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)	Not applicable.	N/A

Part E2 – Smoke hazard management

BCA Clause		Comment/s	Status
E2D15	Class 6 buildings – in fire compartments more than 2000m ² : Class 6 building (containing an enclosed common walkway or mall)	Not applicable.	N/A
E2D16	Class 9b – assembly buildings: all	Not applicable.	N/A
E2D17	Class 9b – assembly buildings: exhibition halls	Not applicable.	N/A
E2D18	Class 9b – assembly buildings: theatres and public halls	Not applicable.	N/A
E2D19	Class 9b – assembly buildings: theatres and public halls (not listed in E2D18) including lecture theatres and cinema/auditorium complexes	Not applicable.	N/A
E2D20	Class 9b assembly buildings: other assembly buildings (not listed in E2D16 to E2D19)	Not applicable.	N/A
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.	Note

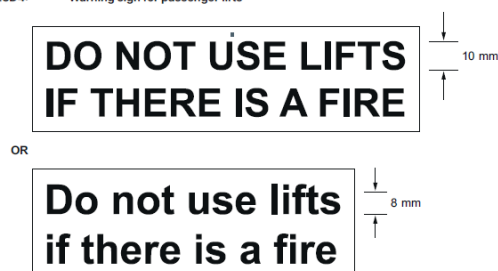
Part E3 – Lift installations

BCA Clause		Comment/s	Status
E3D2	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification 24 of the BCA.	CRA
E3D3	Stretcher facility in lifts	Not applicable.	N/A

Part E3 – Lift installations

BCA Clause	Comment/s	Status
E3D4	Warning against use of lifts in fire (1) A warning sign must be displayed where it can be readily seen near every call button for a passenger lift or group of lifts throughout a building. (2) Each warning sign required by (1) must comply with the details and dimensions of Figure E3D4 and consist of - (a) incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or (b) letters incised or inlaid directly into the surface of the material forming the wall.	CRA

Figure E3D4: Warning sign for passenger lifts



E3D5	Emergency lifts	Not applicable.	N/A
E3D6	Landings	The lower-level lift landing provided within the ground floor public corridor is indicated as being obstructed by the provision of stairway handrails and required extensions, once incorporated within the design. Notwithstanding the above, access and egress to and from lift well landings must comply with Parts D2, D3 and D4.	DNC

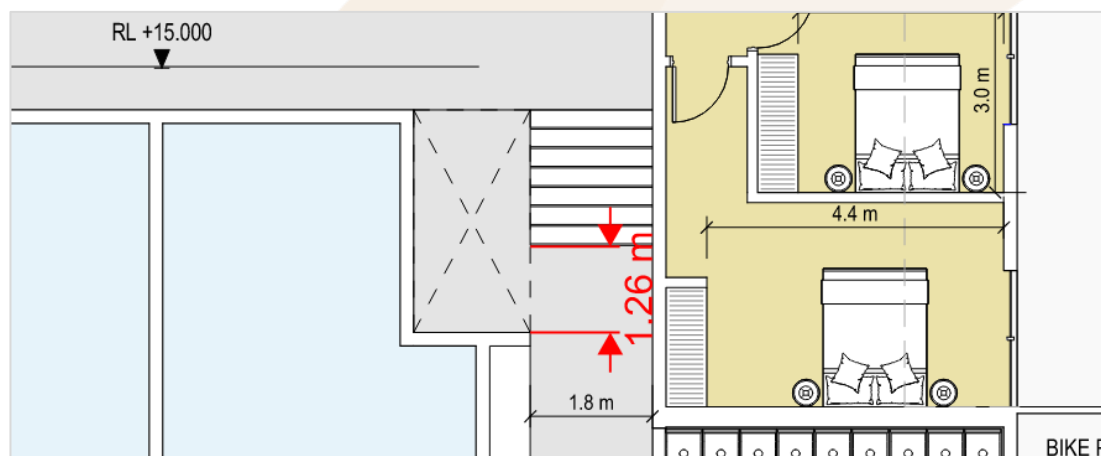


Figure 6.13 – Lift landing

E3D9	Fire service controls	Not applicable.	N/A
E3D10	Residential care buildings	Not applicable.	N/A
E3D11	Fire service recall control switch	Not applicable.	N/A
E3D12	Lift car fire service drive control switch	Not applicable.	N/A

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

BCA Clause		Comment/s	Status
E4D2	Emergency lighting requirements	An emergency lighting system must be installed— (a) in every passageway, corridor, hallway, or the like, that is part of the path of travel to an exit; and (b) in every required non-fire isolated stairway.	CRA
E4D3	Measurement of distance	Distances, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	Note
E4D4	Design and operation of emergency lighting	Every required emergency lighting system must comply with AS/NZS 2293.1-2018.	CRA
E4D5	Exit signs	An exit sign must be clearly visible to persons approaching the exit, and must be installed on, above or adjacent to each— (a) door providing direct egress from a storey to - an enclosed stairway, passageway or ramp serving as a required exit; and (b) door from an enclosed passageway at the level of discharge to a road or open space; and (c) door serving as, or forming part, of a required exit in a storey to be provided with emergency lighting in accordance with E4D2.	CRA
E4D6	Direction signs	If an exit is not readily apparent to persons occupying or visiting the building, then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	CRA
E4D7	Class 2 and 3 buildings and Class 4 parts: Exemptions	E4D5 does not apply to— (a) a Class 2 building in which every door referred to is clearly and legibly labelled on the side remote from the exit or balcony— (i) with the word “EXIT” in capital letters 25 mm high in a colour contrasting with that of the background; or (ii) by some other suitable method; and (b) an entrance door of a Class 2 sole-occupancy unit.	CRA
E4D8	Design and operation of exit signs	Every required exit sign must comply with— (a) comply with – (i) AS/NZS 2293.1-2018; or (ii) for a photoluminescent exit sign, Specification 25 of the BCA; and (b) be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.	CRA
E4D9	Emergency warning and intercom systems	Not applicable.	N/A

SECTION F: HEALTH AND AMENITY

Part F1 – Damp and weatherproofing

BCA Clause		Comment/s	Status
F1D3	Stormwater drainage	Stormwater drainage must comply with AS/NZS 3500.3-2021.	CRA
F1D4	Exposed joints	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.	CRA
F1D5	External above ground membranes	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane— (a) consisting of materials complying with AS 4654.1-2012; and (b) designed and installed in accordance with AS 4654.2-2012.	CRA
F1D6	Damp-proofing	(1) Moisture from the ground must be prevented from reaching— (a) the lowest floor timbers and the walls above the lowest floor joists; and (b) the walls above the damp-proof course; and (c) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. (2) Where a damp-proof course is provided, it must consist of— (a) a material that complies with AS/NZS 2904-1995; or (b) impervious sheet material in accordance with AS 3660.1-2014. (3) A Class 7 or 8 building part need not comply with (1), where in the particular case there is no necessity for compliance.	CRA
F1D7	Damp-proofing of floors on ground	(1) If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870-2011. (2) The requirements of (1) do not apply where— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.	CRA
F1D8	Subfloor ventilation	Not applicable.	N/A

Part F2 – Wet areas and overflow protection

BCA Clause		Comment/s	Status
F2D2	Wet area construction	Building elements in wet areas such as in a sink compartment within the subject premises must— (a) be water resistant or waterproof in accordance with Specification 26; and (b) comply with AS 3740-2021.	CRA

Part F2 – Wet areas and overflow protection

BCA Clause		Comment/s	Status
F2D3	Rooms containing urinals	Not applicable.	N/A
F2D4	Floor wastes	Where a floor waste is installed – (a) the minimum continuous fall of a floor plane to the waste must be 1:80; and (b) the maximum continuous fall of a floor plane to the waste must be 1:50.	CRA

Part F3 – Roof and wall cladding

BCA Clause		Comment/s	Status
F3D2	Roof coverings	A roof must be covered with— (a) roof tiles complying with AS 2049-2002, fixed in accordance with AS 2050-2018; or (b) metal sheet roofing complying with AS 1562.1-2018; or (c) plastic sheet roofing designed and installed in accordance with AS 1562.3-2017; or (d) terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597-1999, except in cyclonic areas; or (e) an external waterproofing membrane complying with F1D5.	CRA
F3D3	Sarking	Sarking type material used for weatherproofing of roofs and walls must comply with AS4200.1-2017 and AS4200.2-2017.	CRA
F3D4	Glazed assemblies	(1) The following glazed assemblies in an external wall, must comply with AS2047-2014 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 (2) The following buildings need not comply with (1): (a) A Class 7 or 8 building part where in the particular case there is no necessity for compliance. (b) A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building. (3) The following glazed assemblies need not comply with (1): (a) All glazed assemblies not in an external wall. (b) Revolving doors. (c) Fixed louvres. (d) Skylights, roof lights and windows in other than the vertical plane. (e) Sliding and swinging glazed doors without a frame. (f) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047-2014. (g) Second-hand windows, re-used windows and recycled windows. (h) Heritage windows.	CRA

Part F3 – Roof and wall cladding

BCA Clause		Comment/s	Status
F3D5	Wall cladding	External wall cladding must comply with one or a combination of the 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.	CRA

Part F4 – Sanitary and other facilities

BCA Clause		Comment/s	Status
F4D2	Facilities in residential buildings	The following facilities must be provided within the Class 2 parts – (1) Within each sole-occupancy unit, provide— (a) a kitchen sink and facilities for the preparation and cooking of food; and (b) a bath or shower; and (c) a closet pan; and (d) a washbasin. (2) For laundry facilities, provide either— (a) in each sole-occupancy unit— (i) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (ii) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line, or space for one heat operated drying cabinet or appliance in the same room as the clothes washing facilities; or (b) a separate laundry for each 4 sole-occupancy units, or part thereof, that must comprise— (i) clothes washing facilities, comprising at least one washtub and a space for a washing machine; and (ii) clothes drying facilities comprising clothes line or a hoist with not less than 7.5 m of line per sole-occupancy unit, or space for one heat operated drying cabinet or appliance. (3) For the purposes of (a) and (b), a kitchen sink or washbasin must not be counted as a laundry washtub.	CRA
F4D3	Calculation of number of occupants and facilities	Clause relates to method of calculating number of occupants and sanitary facilities.	Note
F4D4	Facilities in Class 3 to 9 buildings	It is noted that the proposed commercial tenancies are not proposed to be provided with provision of sanitary facilities. Hence, an assessment of the required sanitary facilities for the commercial tenancies has not been undertaken as the determination of use of each tenancy is subject to future fit out.	Note
F4D8	Construction of sanitary compartments	The door to a fully enclosed sanitary compartment must— (a) open outwards; or (b) slide; or (c) be readily removable from the outside of the sanitary compartment (i.e. lift off hinges). unless there is a clear space of at least 1.2 m, between the closet pan within the sanitary compartment and the doorway.	CRA

Part F4 – Sanitary and other facilities

BCA Clause		Comment/s	Status
F4D9	Interpretation: urinals and washbasins	Not applicable	N/A
F4D10	Microbial (legionella) control	Not applicable. This clause is deleted from the BCA in NSW, as the installation of hot water, warm water and cooling water systems (and their operation and maintenance) is regulated in the Public Health Regulation, 2012, under the Public Health Act, 2010.	N/A
F4D11	Waste management	Not applicable	N/A

Part F5 – Room heights

BCA Clause		Comment/s	Status
F5D2	Heights of rooms and other spaces	(1) The heights of rooms and other spaces in the Class 2 parts must be not less than - (a) For a kitchen laundry or the like – 2.1m; (b) For a corridor, passageway or the like – 2.1m; (c) For a habitable room, excluding a kitchen – 2.4m; (d) A non-habitable room — a height of not less than 2.1 m for not less than two-thirds of the floor area of the room or space. (e) For a bathroom, sanitary compartment, store room, or the like - 2.1m; (f) Above a stairway, ramp, landing or the like – 2m. (2) The heights of rooms and other spaces in the Class 6 & Class 7a parts must be not less than - (a) For a bathroom, shower room, sanitary compartment, carparking areas, store room or the like – 2.1m; (b) For a commercial kitchen – 2.4m; (c) Above a stairway, ramp, landing or the like – 2m; (d) For a corridor, passageway or the like – 2.1m; (e) All other areas – 2.4m.	CRA

Part F6 – Light and ventilation

BCA Clause		Comment/s	Status
F6D2	Provision of natural light	Provision for natural light must be provided to all habitable rooms to the Class 2 parts. Refer F6D3 and F6D4 for methods of providing natural light.	Note

Part F6 – Light and ventilation

BCA Clause	Comment/s	Status
F6D3	Methods and extent of natural light Insufficient details have been provided so as to determine the extent of natural light provided via window openings to habitable rooms in the Class 2 parts. Notwithstanding the above, the methods and extent of natural light must be provided in accordance with the following - (1) Method of required natural light must be provided by— (a) windows, excluding roof lights, that— (i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and (ii) are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or (b) roof lights, that— (i) have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 3% of the floor area of the room; and (ii) are open to the sky; or (c) a proportional combination of windows and roof lights required by (a) and (b). (2) A required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must not be less than a horizontal distance from that boundary or wall that is the greater of – (a) generally – 1m; (b) 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill.	FIR / CRA

Part F6 – Light and ventilation

BCA Clause		Comment/s	Status
F6D4	Natural light borrowed from adjoining room	It is identified that the study spaces within the Class 2 sole occupancy units are proposed to borrow natural light from an adjoining room. However, insufficient details have been provided so as to determine the extent of natural light provided via window openings in accordance with the requirements of this clause. Notwithstanding the above, natural light may be borrowed from adjoining room in accordance with the following - (1) Natural light in a sole occupancy unit of the Class 2 parts, may come through one or more glazed panels or openings from an adjoining room if— (a) both rooms are within the same sole-occupancy unit; and (b) the glazed panels or openings have an aggregate light transmitting area of not less than 10% of the floor area of the room to which it provides light; and (c) the adjoining room has— (i) windows, excluding roof lights, that— (A) have an aggregate light transmitting area of not less than 10% of the combined floor areas of both rooms; and (B) are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or (ii) roof lights, that— (A) have an aggregate light transmitting area of not less than 3% of the combined floor areas of both rooms; and (B) are open to the sky; or (iii) a proportional combination of windows and roof lights required by (i) and (ii). (2) The areas specified in (1)(b) and (c) may be reduced as appropriate if direct natural light is provided from another source.	FIR / CRA
F6D5	Artificial lighting	(1) Artificial lighting must be provided— (a) in required stairways, passageways, and ramps; and (b) If natural light of a standard equivalent to that required by F6D3 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency – (i) Class 2 Parts – to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; (ii) Class 6 & 7a Parts - to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. (2) The artificial lighting system must comply with AS/NZS 1680.0-2009.	CRA

Part F6 – Light and ventilation

BCA Clause			Comment/s	Status
F6D6	Ventilation of rooms		A habitable room, office, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have— (a) natural ventilation complying with F6D7; or (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2-2012.	CRA
F6D7	Natural ventilation		Natural ventilation provided in accordance with F6D6(a) must consist of openings, windows, doors or other devices which can be opened— (a) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (b) open to— (i) a suitably sized court, or space open to the sky; or (ii) an open verandah, carport, or the like; or (iii) an adjoining room in accordance with F6D8.	CRA
F6D8	Ventilation borrowed from adjoining room		Natural ventilation to a room may come through a window, opening, door or other device from an adjoining room if both rooms are within the same sole-occupancy unit or the enclosed verandah is common property, and – (a) In the Class 2 parts - (i) the room to be ventilated is not a sanitary compartment; and (ii) the window, opening, door or other device has a ventilating area of not less than 10% of the floor area of the room to be ventilated, measured not more than 3.6 m above the floor; and (iii) 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. (b) In Class 6 parts – (i) the window, opening, door or other device has a ventilating area of not less than 10% of the floor area of the room to be ventilated, measured not more than 3.6 m above the floor; and (ii) the adjoining room has a window, opening, door or other device with a ventilating area of not less than 10% of the combined floor areas of both rooms.	CRA
F6D9	Restriction on location of sanitary compartments		The sanitary compartments are identified as not opening directly into - a kitchen or pantry.	C
F6D10	Airlocks		Not applicable.	N/A
F6D11	Carparks		The Class 7a carpark level must have – (a) a system of mechanical ventilation complying with AS 1668.2-2012; or (b) a system of natural ventilation complying with Section 4 of AS 1668.4-2012.	CRA

Part F6 – Light and ventilation

BCA Clause			Comment/s	Status
F6D12	Kitchen exhaust ventilation	local	Where a commercial kitchen is proposed to be provided within the commercial tenancies, the commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1-2015 and AS 1668.2-2012 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.	CRA

Part F7 – Sound transmission and insulation

BCA Clause			Comment/s	Status
F7D2	Application of Part		The Deemed-to-Satisfy Provisions of this Part apply to Class 2 and 3 buildings and Class 9c buildings.	Note
F7D3	Determination of airborne sound insulation ratings		A form of construction required to have an airborne sound insulation rating must— (a) have the required 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/NZS ISO 717.1-2004 using results from laboratory measurements; or (b) comply with Specification 28 of the BCA.	Note
F7D4	Determination of impact sound insulation ratings		(1) A floor in a building required to have an impact sound insulation rating must— (a) have the required value for weighted normalised impact sound pressure level (L_{n,w}) determined in accordance with AS ISO 717.2-2004 using results from laboratory measurements; or (b) comply with Specification 28. (2) A wall in a building required to have an impact sound insulation rating must, for the Class 2 parts, be of discontinuous construction; and (3) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (a) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (b) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	CRA

Part F7 – Sound transmission and insulation

BCA Clause		Comment/s	Status
F7D5	Sound insulation rating of floors	A floor in the Class 2 parts must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) not more than 62 if it separates— (a) sole-occupancy units; or (b) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.	CRA
F7D6	Sound insulation rating of walls	(1) A wall in the Class 2 parts must— (a) have an $R_w + C_{tr}$ (airborne) not less than 50, if it separates sole-occupancy units; and (b) have an R_w (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification; and (c) comply with F7D4(2) if it separates— (i) a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit; or (ii) a sole-occupancy unit from a plant room or lift shaft. (2) A door may be incorporated in a wall in a Class 2 part 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. (3) Where a wall required to have sound insulation has a floor above, the wall must continue to— (a) the underside of the floor above; or (b) a ceiling that provides the sound insulation required for the wall. (4) Where a wall required to have sound insulation has a roof above, the wall must continue to— (a) the underside of the roof above; or (b) a ceiling that provides the sound insulation required for the wall.	CRA
F7D7	Sound insulation rating of internal services	(1) If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one sole-occupancy unit, the duct or pipe must be separated from the rooms of any sole-occupancy unit by construction with an $R_w + C_{tr}$ (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. (2) If a storm water pipe passes through a sole-occupancy unit it must be separated in accordance with (1)(a) and (b).	CRA

Part F8 – Condensation management

BCA Clause		Comment/s	Status
F8D2	Application of Part	The Deemed-to-Satisfy Provisions of this Part only apply to a sole-occupancy unit of a Class 2 building and a Class 4 part of a building.	Note
F8D3	Pliable building membrane	(1) Where a pliable building membrane is installed in an external wall, it must— (a) comply with AS 4200.1-2017; and (b) be installed in accordance with AS 4200.2-2017; 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 0.143 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.	CRA
F8D4	Exhaust systems	(1) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of— (a) 25 L/s for a bathroom or sanitary compartment; and (b) 40 L/s for a kitchen or laundry. (2) Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment or laundry must discharge directly or via a shaft or duct to outdoor air. (3) Where space for a clothes drying appliance is provided in accordance with F4D2(1)(b), space must also be provided for ducting from the clothes drying appliance to outdoor air. (4) (3) does not apply if a condensing-type clothes drying appliance is installed. (5) An exhaust system that is not run continuously and is serving a bathroom or sanitary compartment that is not ventilated in accordance with F6D7 must— (a) be interlocked with the room's light switch; and (b) include a run-on timer so that the exhaust system continues to operate for 10 minutes after the light switch is turned off. (6) Except for rooms that are ventilated in accordance with F6D7, a room with space for ducting a clothes drying appliance to outdoor air in accordance with (3) must be provided with make-up air in accordance with AS 1668.2-2012.	CRA
F8D5	Ventilation of roof spaces	Not applicable. The building is situated in climate zone 5.	N/A

SECTION G: ANCILLARY PROVISIONS

Part G1 – Minor Structures and Components

BCA Clause		Comment/s	Status
G1D2	Swimming pools	Not applicable.	N/A
G1D3	Refrigerated chambers, strong-rooms and vaults	Not applicable.	N/A
G1D4	Outdoor play spaces	Not applicable.	N/A
G1D5	Provision for cleaning windows	The building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level, which may be satisfied where – (a) the windows can be cleaned wholly from within the building; or (b) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	CRA

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

BCA Clause		Comment/s	Status
G2D2	Installation of appliances	The installation of a stove, heater or similar appliance in a building must comply with: (a) Domestic solid-fuel burning appliances — installation: AS/NZS 2918-2018. (b) For boilers and pressure vessels: Specification 30.	CRA
G2D3	Open fireplaces	Not applicable.	N/A
G2D4	Incinerator rooms	Not applicable.	N/A

Part G3 – Atrium construction

BCA Clause		Comment/s	Status
G3	Atrium construction	Not applicable.	N/A

Part G4 – Construction in alpine areas

BCA Clause		Comment/s	Status
G4	Construction in alpine areas	Not applicable.	N/A

Part G5 – Construction in bushfire prone areas

BCA Clause		Comment/s	Status
G5D3	Construction in bushfire prone areas	If the building is located in a designated bushfire prone area, the following must be complied with — (a) AS 3959-2018 except— (i) as amended by Planning for Bush Fire Protection; and (ii) for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or (b) the requirements of (a) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or (c) the requirements of (a) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.	Note

Part G6 – Occupiable outdoor areas

BCA Clause		Comment/s	Status
G6D1	Application of Part	Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to— (a) an occupiable outdoor area of the sole-occupancy unit in a Class 2 building; or (b) an occupiable outdoor area with an area less than 10m².	Note
G6D2	Fire hazard properties	(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 (SMOGR_{RC}).	Note
G6D3	Fire separation	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.	Note
G6D4	Provision for escape	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area	Note
G6D5	Construction of exits	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	Note
G6D6	Firefighting equipment	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.	Note
G6D7	Lift installations	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	Note

Part G6 – Occupiable outdoor areas

BCA Clause		Comment/s	Status
G6D8	Visibility in an emergency, exit signs and warning systems	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	Note
G6D9	Light and ventilation	For the purposes of the Deemed-to-Satisfy Provisions of F6D5, F6D9 and F6D10, a reference to a room includes an occupiable outdoor area.	Note
G6D10	Fire orders	Not applicable.	N/A

Part G7 – Livable housing design

BCA Clause		Comment/s	Status
G7	Livable housing design	Not applicable.	N/A

SECTION I: SPECIAL USE BUILDINGS			
Part I1 – Class 9b buildings			
BCA Clause		Comment/s	Status
I1	Class buildings 9b	Not applicable.	N/A
Part I2 – Public transport buildings			
BCA Clause		Comment/s	Status
I2	Public transport buildings	Not applicable.	N/A
Part I3 – Farm buildings and farm sheds			
BCA Clause		Comment/s	Status
I3	Farm buildings and farm sheds	Not applicable.	N/A

7. Conclusion

In concluding the review undertaken, it is considered that based on the documentation provided (as referenced in Annexure 1), the proposed scope of works is capable of complying with the relevant deemed to satisfy provisions and/or performance requirements of the Building Code of Australia (BCA) Volume 1 2022.

Where compliance is to be obtained via a performance-based solution for any BCA provision, it is considered that any such solution/s will not necessitate significant changes to the proposed design.



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ANNEXURE 1 – Documentation Assessed

This assessment is based on the following documentation –

Discipline	Architectural
Organisation	Warren and Mahoney
Documentation Type	Plans

Plan No.	Title	Revision	Date
A00.005	SITE PLAN_PROPOSED	B	24.11.2023
A10.100	Ground Level	B	24.11.2023
A10.101	Level 01	B	24.11.2023
A10.102	Level 02	B	24.11.2023
A10.103	Roof Level	B	24.11.2023
A10.B01	B01	B	24.11.2023
A20.205	ELEVATION 1 - SOUTH	B	24.11.2023
A20.206	ELEVATION 2 - NORTH	B	24.11.2023
A20.207	ELEVATION 3 - SOUTH	B	24.11.2023
A20.208	ELEVATION 4 - EAST	B	24.11.2023
A30.301	SECTION – AA BB	B	24.11.2023

ANNEXURE 2 – Fire Resistance Levels

A2.1 – Type A Construction: General Requirements Summary

- (1) Each building element listed in Table 2.1 below must have a fire resisting level (FRL) as listed for the particular class of building or building part concerned; and
- (2) Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part, must—
 - (a) have an FRL not less than that required by other provisions of Specification 5; and
 - (b) if located within the same fire compartment as the part it supports have an FRL in respect of structural adequacy the greater of that required—
 - (i) for the supporting part itself; and
 - (ii) for the part it supports; and
 - (c) be non-combustible—
 - (i) if required by other provisions of Specification 5; or
 - (ii) if the part it supports is required to be non-combustible.
- (3) A lintel must have the FRL required for the part of the building in which it is situated.
- (4) A lintel need not achieve the FRL required for the part of the building in which it is situated if it does not contribute to the support of a fire door, fire window or fire shutter, and—
 - (a) it spans an opening in—
 - (i) a wall of a building containing only one storey; or
 - (ii) a non-loadbearing wall of a Class 2 or 3 building; or
 - (b) it spans an opening in masonry which is not more than 150 mm thick and—
 - (i) not more than 3 m wide if the masonry is non-loadbearing; or
 - (ii) not more than 1.8 m wide if the masonry is loadbearing and part of a solid wall or one of the leaves of a cavity wall.
- (5) Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building, unless –
 - (a) The top of a shaft extending beyond the roof covering, other than one enclosing a fire isolated stairway or ramp; or
 - (b) The bottom of a shaft if it is non-combustible and laid directly to the ground.
- (6) Any internal wall which is required to have an FRL with respect to integrity and insulation must extend to—
 - (a) the underside of the floor next above; or
 - (b) the underside of the roof complying with Table 2.1 below; or
 - (c) if under S5C15 the roof is not required to achieve an FRL, 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
 - (d) 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.
- (7) A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from—
 - (a) concrete; or
 - (b) masonry; or
 - (c) any combination of (a) and (b).

- (8) For the purposes of Table 2.1 below, an external wall includes any column and other building element incorporated within it or other external building element.
- (9) A floor need not comply with Table 2.1 below, if –
- (a) It is laid directly on the ground; or
 - (b) In a Class 5 or 9 building, the space below is not a storey, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or
 - (c) It is an open-access floor (for the accommodation of electrical and electronic services and the like) above a floor with the required FRL.
- (10) A roof need not comply with Table 2.1 below, if its covering is non-combustible and the building has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 installed throughout.
- (11) If a roof is required to have an FRL or its covering is required to be non-combustible, roof lights or the like installed in that roof must—
- (a) have an aggregate area of not more than 20% of the roof surface; and
 - (b) be not less than 3 m from—
 - (i) any boundary of the allotment other than the boundary with a road or public place; and
 - (ii) any part of the building which projects above the roof unless that part has the FRL required of a fire wall and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C4D5; and
 - (iii) any roof light or the like in an adjoining sole-occupancy unit if the walls bounding the unit are required to have an FRL; and
 - (iv) any roof light or the like in an adjoining fire-separated section of the building; and
 - (c) if a ceiling with a resistance to the incipient spread of fire is required, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.
- (12) A carpark may comply with Table 2.2 below if it is protected with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 and is—
- (a) a separate building; or
 - (b) a part of a building—
 - (i) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or
 - (ii) which is located above or below another classification, and the floor separating the classifications complies with C3D10; or
 - (iii) which is located above another Class 7 part of the building not used for carparking, and the floor separating the parts complies with Table 2.1 below for a Class 7 part other than a carpark; or
 - (iv) which is located below another Class 7 part of the building not used for carparking, and the floor separating the parts complies with this clause.

A2.2 – Type A Construction: Fire Resistance of Building Elements

Each building element listed in the table below must have a fire resisting level (FRL) as listed for the particular class of building or building part concerned.

Table 2.1 – Type A construction: FRL of building elements

Building Element	Class of building			
	Structural Adequacy / Integrity / Insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For loadbearing 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 or more	90/ 60/ 30	120/ 60/ 30	180/ 120/ 90	240/ 180/ 90
For non-loadbearing 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> -				
For loadbearing columns -	90/ –/ –	120/ –/ –	180/ –/ –	240/ –/ –
Fire non-loadbearing columns	–/ –/ –	–/ –/ –	–/ –/ –	–/ –/ –
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>				
<i>Loadbearing</i>	90/ 90/ 90	120/ 120/ 120	180/ 120/ 120	240/ 120/ 120
<i>Non-loadbearing</i>	–/ 90/ 90	–/ 120/ 120	–/ 120/ 120	–/ 120/ 120
<i>Bounding public corridors, public lobbies and the like—</i>				
<i>Loadbearing</i>	90/ 90/ 90	120/ –/ –	180/ –/ –	240/ –/ –
<i>Non-loadbearing</i>	–/ 60/ 60	–/ –/ –	–/ –/ –	–/ –/ –
<i>Between or bounding sole-occupancy units—</i>				
<i>Loadbearing</i>	90/ 90/ 90	120/ –/ –	180/ –/ –	240/ –/ –
<i>Non-loadbearing</i>	–/ 60/ 60	–/ –/ –	–/ –/ –	–/ –/ –
<i>Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion —</i>				
<i>Loadbearing</i>	90/ 90/ 90	120/ 90/ 90	180/ 120/ 120	240/ 120/ 120
<i>Non-loadbearing</i>	–/ 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

Table 2.2 – Type A construction: Requirements for carpark

Building Element			FRL (not less than) Structural adequacy / Integrity / Insulation ESA/M (not greater than)
Walls			
(a)	External wall		
	(i)	less than 3m from a fire source feature to which it is exposed:	
	(A)	Loadbearing	60/ 60/ 60
	(B)	Non-loadbearing	--/ 60/ 60
	(ii)	3m or more from a fire source feature to which it is exposed	--/--/--
(b)	Internal wall		
	(i)	Loadbearing, other than one supporting only the roof (not used for carparking)	60/ --/ --
	(ii)	Supporting only the roof (not used for carparking)	--/--/--
	(iii)	Non-loadbearing	--/--/--
(c)	Fire wall		
	(i)	From the direction used as a carpark	60/ 60/ 60
	(ii)	From the direction not used as a carpark	As required by Table 2.1 above
Columns			
(a)	Supporting only the roof (not used for carparking) and 3m or more from a fire source feature to which it is exposed		--/--/--
(b)	Steel column, other than one covered by (a) and one that does not support a part of a building that is not used as a carpark		60/ --/ -- or an ESA/M of not greater than 26m²/tonne
(c)	Any other column not covered by (a) or (b)		60/ --/ --
Beam			
(a)	Steel floor beam in continuous contact with a concrete floor slab		60/ --/ -- or an ESA/M of not greater than 30m²/tonne
(b)	Any other beam		60/ --/ --
Fire-resisting lift and stair shaft (within the carpark only)			60/ 60/ 60
Floor slab and vehicle ramp			60/ 60/ 60
Roof (not used for carparking)			--/--/--

ANNEXURE 3 – Fire Hazard Properties

The required fire hazard properties for building materials applicable to this development are as set out below.

Table 3.1 – Fire hazard properties

Floor linings and floor coverings	
A floor lining or floor covering for each relevant building part must achieve the following critical radiant heat flux value-	
Building not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	
Fire isolated exits	Critical radiant flux of $\geq 2.2 \text{ kW/m}^2$
All areas	Critical radiant flux of $\geq 2.2 \text{ kW/m}^2$
Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	
Fire isolated exits	Critical radiant flux of $\geq 2.2 \text{ kW/m}^2$
All other areas	Critical radiant flux of $\geq 1.2 \text{ kW/m}^2$
Additionally, a floor lining or floor covering must have –	
(a) In a building not protected by a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17, a maximum smoke development rate of 750 percent-minutes; and (b) A Group 1 or Group 2 material in accordance with AS 5637.1-2015 for any portion of the floor covering that is continued more than 150mm up a wall.	
Wall and ceiling linings materials (material groups permitted)	
A wall or ceiling system must comply with the group number specified below for each relevant building part -	
Building not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	
Fire isolated exits -	
Walls & Ceilings	Group 1
Class 2 Parts -	
Public corridors – Walls & Ceilings	Group 1 or 2
Specific Areas (i.e., Within SOUs) – Walls & Ceilings	Group 1, 2 or 3
Other areas – Walls & Ceilings	Group 1, 2 or 3
Class 6 & 7a Parts	
Public Corridors – Walls & Ceilings	Group 1 or 2
Specific Areas – Walls	Group 1, 2 or 3
Specific Areas – Ceilings	Group 1 or 2
Other Areas – Walls & Ceilings	Group 1, 2 or 3
Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17	
Fire isolated exits -	
Walls & Ceilings	Group 1
Class 2 Parts -	
All areas – Walls & Ceilings	Group 1, 2 or 3
Class 6 & 7a Parts	
All areas – Walls & Ceilings	Group 1, 2 or 3

Additionally, a wall or ceiling lining system must have –

- (a) For buildings not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 have –
 - (i) a smoke growth rate index not more than 100; or
 - (ii) an average specific extinction area less than 250 m²/kg.
- (b) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS5637.1-2015.

Air handling ductwork

Rigid and flexible ductwork in a Class 2 to 9 building must comply with the fire hazard properties set out in AS4254.1-2021 and AS4254.2-2012.

Lift cars

Floor linings and floor coverings	Critical radiant flux not less than 2.2 kW/m ²
Wall and ceiling linings	Group 1 or Group 2 material in accordance with AS5637.1-2015

Other materials

Fire isolated exits, other than a sarking type material used in a ceiling or used as an attachment or part of an attachment to a building element.	Spread-of Flame Index of ≤ 0
	Smoke-Developed Index ≤ 2

NOTE –

- *In a fire isolated stairway, a material used as an attachment or part of an attachment to a building element must, if combustible, be attached directly to a non-combustible substrate and not exceed 1mm finished thickness.*

Sarking-type material: in a fire isolated exit.	Flammability Index of ≤ 0
Sarking-type material: in other locations	Flammability Index of ≤ 5

NOTE –

- *A material, other than one located within a fire isolated exit, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.*

Other materials

Other materials or locations in materials other than sarking-type materials

Note/s –

- *A material, other than one located within a fire isolated exit, may be covered on all faces by concrete or masonry not less than 50 mm thick, as an alternative to meeting the specified indices.*
- *In the case of a composite member or assembly, the member or assembly must be constructed so that when assembled as proposed in a building—*
 - (a) any material which does not comply with this Table is protected on all sides and edges from exposure to the air; and*
 - (b) the member or assembly, when tested in accordance with Specification 3, has Spread-of-Flame Index and Smoke-Developed Index not exceeding those prescribed in this Table; and*
 - (c) the member or assembly retains the protection in position so that it prevents ignition of the material and continues to screen it from access to free air for a period of not less than 10 minutes.*

Spread-of Flame Index of ≤ 9

Smoke-Developed Index ≤ 8

if the Spread-of Flame Index is more than 5