BCA Compliance Report

MIXED USE DEVELOPMENT

BOARDING HOUSE / CHURCH / COMMUNITY FACILITIES

28 FISHER RD / 9 FRANCIS ST, DEE WHY, NSW

1 AUGUST, 2022

THE george GROUP

architecture
modularisation
project management
interior design
procurement

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1.0 BASIS OF ASSESSMENT

1.1 Location and Building Description

The proposed development, subject to this report, is located at 28 Fisher Rd, Dee Why / 9 Francis St, Dee Why.

The proposal is for mixed use development comprising boarding house development consisting of 1 manager's residence, 51 dual-occupancy boarding rooms / OOA rooms, communal areas, associated carpark (34 car spaces including 12 disabled spaces, 11 motorbikes and 11 bicycles) and loading area.

1.2 Purpose of Building Report

The purpose of this report is to:

- Identify the relevant Deemed-to-Satisfy Provisions of the Building Code of Australia (BCA) in relation Clauses C, D, E and F including the Premises Standard requirements and identify any non-compliances; and
- To provide a list of proposed fire safety measures for the development.

1.3 Building Code of Australia (BCA)

This report is based on the Deemed-to-Satisfy Provisions of the Building Code of Australia 2016, Volume 1 and the NSW

variations where applicable and Premises Standards.

1.4 Report Limitations

This report does not include nor imply any detailed or assessment for design compliance or upgrading for:-

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

This report does not include, imply or compliance with:

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

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

1.5 Design Documentation

This report has been based on the following;

- Architectural plans dated August 2022, Job No.4089 prepared by The George Group Pty Ltd.
- Building Code of Australia 2016, Volume 1 and relevant Australian Standards.
- Premises Standards.
- Environmental Planning and Assessment Act 1979.
- Environmental Planning and Assessment Regulation 2000.

2.0 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia the development may be described as follows;

2.1 Rise in storeys

The building has a rise in storeys of 5

2.2 Classification

The building classification is Class 3 “Boarding House”, Class 9b “Church”, Class 6 “Shop” and Class 7a “Car park”.

2.3 Effective Height

The building has an effective height of under 25m.

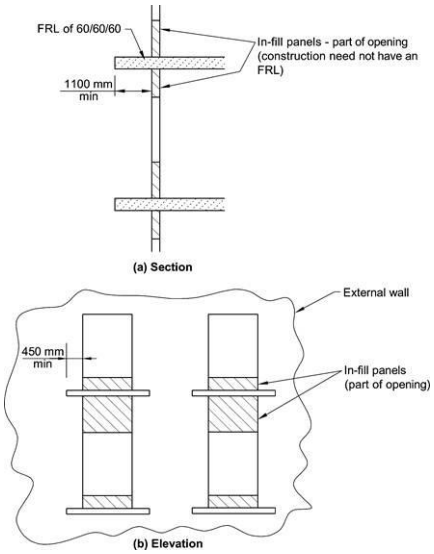
2.4 Type of Construction

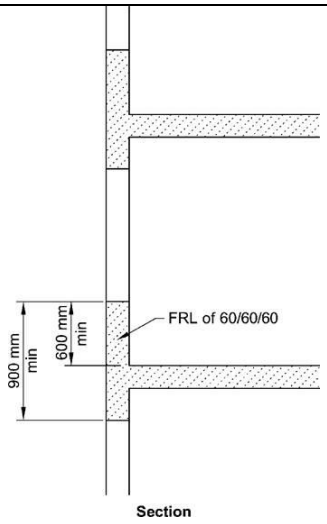
Rise in storeys of 5 = Type **A** Construction for the Fisher Rd end of the site.

3.0 BUILDING CODE OF AUSTRALIA ASSESSMENT (BCA)

Item	Description	Status	Comments
S ECTI ON C	**FI RE RES I S TANCE**	Applies	
PART C1	**FIRE RESISTANCE AND STABILITY**		
C1.1	Type of Construction	Type **A** Construction	The proposed development is capable of complying with the FRL requirements of Building Elements in Table 3 of Spec C1.1
	Fire Source features (Existing)	Applies	Openings and Building Elements are capable of complying with C3.2, C3.4 and Spec C1.1 Table 3
	• External Wall to Northern Boundary	Applies < 3m to boundary	Capable of complying
	• External Wall to Eastern Boundary	Applies > 6m to from side of road (Fisher Rd)	Complies
	• External Wall to Western Boundary	Applies < 3m to boundary	Capable of complying
	• External Wall to Southern Boundary	Applies > 3m to boundary	Complies
Specification C1.1	Fire-resisting construction		
2	General Requirements	Noted	Noted
3	Type **A** Fire-Resisting Construction	Applies	**Capable of complying**
4	Type B Fire-Resisting Construction	N/A	N/A
5	Type C Fire-Resisting Construction	N/A	N/A
C1.2	Rise in storeys	Applies	Five (5) Storeys
C1.3	Mixed class & top most storey	Applies	Class 3 – Type A Construction
C1.5	Two storey Class 2, 3 or 9 buildings concession	N/A	N/A
C1.6	Class 4 parts of buildings	N/A	N/A
C1.7	Open spectator stands and indoor sports stadiums	N/A	N/A
C1.8 and Specification C1.8	Lightweight construction	N/A	N/A
C1.10 and Specification C1.10 & C1.10a	Fire hazard properties	Applies	The common areas and commercial premises proposed building works are capable of complying. The fire hazard properties of the proposed floor linings and coverings, wall and ceiling linings in common areas are to be provided to the Principal Certifying Authority prior to issue of the Construction Certificate.

Item	Description	Status	Comments
C1.11 and Specification C1.11	Performance of external walls in fire	N/A	N/A
C1.12	Non-combustible materials	Noted	Noted
PART C2	**COMPARTMENTATION AND SEPARATION**		
C2.2	General floor area and limitations	Applies	The max floor area and volume limitations do not apply to Class 3 building. The retail and car parking capable of complying with Type A construction.
C2.3	Large isolated buildings	N/A	N/A
C2.4	Requirements for open spaces and vehicular access	N/A	N/A
C2.5	Class 9a buildings	N/A	N/A
C2.6	Vertical separation of openings in external walls	Applies	To Type **A** construction (a) If in a building of Type A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the openings must be separated by— (i) a spandrel which— (A) is not less than 900 mm in height; and (B) extends not less than 600 mm above the upper surface of the intervening floor; and (C) is of non-combustible material having an FRL of not less than 60/60/60; or (ii) part of a curtain wall or panel wall that complies with (i); or (iii) construction that complies with (i) behind a curtain wall or panel wall and has any gaps packed with a non-combustible material that will withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke; or (iv) a slab or other horizontal construction that— (A) projects outwards from the external face of the wall not less than 1100 mm; and (B) extends along the wall not less than 450 mm beyond the openings concerned; and (C) is non-combustible and has an FRL of not less than 60/60/60. (b) The requirements of (a) do not apply to— (i) an open-deck car park; or (ii) an open spectator stand; or (iii) a building which has a sprinkler system complying with Specification E1.5 installed throughout; or (iv) openings within the same stairway; or (v) openings in external walls where the floor separating the storeys does not require an FRL with respect to integrity and insulation. (c) For the purposes of C2.6, window or other opening means that part of the external wall of

			a building that does not have an FRL of 60/60/60 or greater. **Comments**: The spandrel separation on the external wall generally appears to be 900mm, **with exception to the Doors (D004) and Windows (W005) on the western elevation.** The spandrel separation on the internal walls for room 17, 18 and 19 **do not comply.** Horizontal projections on balconies to be 1.1m and window openings on balconies setback 450mm from edge of balconies or nib walls are to be provided. The open balcony (walkway) serving the second floor is to have a minimum horizontal projection of 1.1m. The plans indicate 1m which **does not comply.** **Capable of complying**  The spandrel separation of 900mm and 600mm is to be provided between storeys and windows where the 1.1m horizontal projections (balconies/walkway) are provided.

			 Section **Capable of complying**
C2.7	Separation by fire walls	N/A	N/A
C2.8	Separation of classifications in the same storey	Applies	The building has Class 9b "Church" common areas and Class 6 "Retail" in the same storey; • Each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or • The parts must be separated in that storey by a fire wall having– • The higher FRL prescribed in Table **3**, 4 or 5 of Specification C1.1 as applicable for that element for the Type of construction and the classifications concerned. • Where one part is a car park complying with Table **3.9**, 4.2 or 5.2 of Specification C1.1, the parts may be separated by a fire wall complying with the appropriate Table. **Note**: Fire doors are to be provided in separating walls that have the same integrity of the FRL with a concession for the insulation which can be reduced to 30min. Structural details are required to confirm FRL compliance.

			Capable of complying
C2.9	Separation of classifications in different storeys	Applies	If parts of different classification are situated one above the other in adjoining *storeys* they must be separated as follows; (a) Type A construction — The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey. **Comments**: The following FRL's are to be provided to floors separating classifications in different storeys. Class 6 and Class 3 = FRL 180/180/180 Structural details are required to confirm FRL compliance. **Capable of complying**

Item	Description	Status	Comments
C2.10	Separation of lift shafts	Applies	(a) Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered, (other than lifts which are wholly within an atrium) must be separated from the remainder of the building by enclosure in a shaft ~~in which —~~ (i) in a building required to be of Type A construction—the walls have the relevant FRL prescribed by Specification C1.1; and (ii) in a building required to be of Type B construction — the walls— ~~(A)~~ if loadbearing, have the relevant FRL prescribed by Table 4 of Specification C1.1; or (B) if non-loadbearing, be of non-combustible construction. (b) Any lift in a patient care area in a Class 9a health-care building or a resident use area in Class 9c aged care building must be separated from the remainder of the building by a shaft having an FRL of not less than— ~~(i)~~ in a building of Type A or B construction — 120/120/120; or ~~(ii)~~ in a building of Type C construction — 60/60/60. ~~(c)~~ An emergency lift must be contained within a fire-resisting shaft having an FRL of not less than 120/120/120. ~~(d)~~ Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C3.

			Comments: The building is required to be accessible for persons with a disability in accordance with Part D3 BCA. Should a lift be required it is to be enclosed in its own shaft and require an FRL of not less than 90/90/90 with lift openings to be protected. Structural details are required to confirm FRL compliance.
C2.11	Stairways and lifts in one shaft	N/A	The plans indicate no stairways and lifts in one shaft.
C2.12	Separation of equipment	Applies	(a) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises— (i) lift motors and lift control panels; or (ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or (iii) central smoke control plant; or (iv) boilers; or (v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours. (b) Equipment need not be separated in accordance with (a) if the equipment comprises— (i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or (ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or (iii) a lift installation without a machine-room; or (iv) equipment otherwise adequately separated from the remainder of the building. (c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (d) Separating construction must have— (i) except as provided by (ii)— (A) an FRL as required by Specification C1.1, but not less than 120/120/120; and (B) any doorway protected with a self-closing fire door having an FRL of not less than –/120/30; or (ii) when separating a lift shaft and lift motor room, an FRL not less than 120/–/–. **Capable of complying**
C2.13	Electricity supply system	Applies	Details are to be provided for the proposed electrical supply for the building. **Note**: Emergency equipment is to be fire separated in separate switchboards from non-emergency equipment. **Capable of complying**

C2.14	Public corridors in Class 2 and 3 buildings	Applies	In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with Clause 2 of Specification C2.5. **Comments**: The public corridors serving the sole-occupancy units do not exceed 40m in distance Complies
PART C3	**PROTECTION OF OPENINGS**		
C3.2(a) NSW deleted	Protection of openings in external walls that are required to have an FRL	Applies	The plans indicate that openings are provided within 3m of the fire source feature refer that require protection in accordance with C3.4. **Capable of complying**
C3.3	Separation of openings in different fire compartments	N/A	N/A
C3.4	Acceptable methods of protection	Applies	The windows and doors are required to be provided with the following; • Doorways -/60/30 self-closing fire doors; • Windows wall wetting drencher system used with windows that are automatic closing. **Comments**: The openings within 3m of the fire-source feature are to be protected by the above or by nib wall construction as a permanent measure to protect the openings, or relocate the opening > 3m. **Note**: The nib wall is required to have the same FRL as the external wall of 90/90/90. **Capable of complying**
C3.5	Doorways in fire walls	Applies	Self-closing fire doors are to be provided in separating walls that have the same integrity of the FRL required with a concession for the insulation which is to be 30min. (See Clause C2.8 of the report)

			A door schedule is to be provided to confirm compliance. **Capable of complying**
C3.6	Sliding fire doors	N/A	N/A
C3.7	Protection of doorways in horizontal exits	N/A	N/A
C3.8	Openings in fire isolated exits	N/A	N/A
C3.9	Service penetrations in fire isolated exits	N/A	~~Fire-isolated exits must not be penetrated by any services other than—~~ ~~(a) electrical wiring permitted by D2.7(e) to be installed within the exit; or~~ ~~(b) ducting associated with a pressurisation system if it—~~ ~~(i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and~~ ~~(ii) does not open into any other part of the building; or~~ ~~(c) water supply pipes for fire services.~~
C3.10	Openings in fire isolated lift shafts	Applies	(a) 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— (i) comply with AS 1735.11; and (ii) are set to remain closed except when discharging or receiving passengers, goods or vehicles. (b) 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. **Comments:** Should a lift be installed manufacturer details and certification is to be provided to the Principal Certifying Authority to confirm design compliance for the openings in fire-isolated lift shafts.
C3.11 NSW C3.11(d)	Bounding construction: Class 2, 3 & 4 buildings	Applies	(a) A doorway in a Class 2 or 3 building must be protected if it provides access from a *sole-occupancy unit* to— (i) a *public corridor*, public lobby, or the like; or (ii) a room not within a *sole-occupancy unit*; or (iii) the landing of an internal non *fire-isolated stairway* that serves as a *required exit*; or (iv) another *sole-occupancy unit*. **Comments**: The Class 3 sole-occupancy units on the first and second floor open onto an open balcony (open to the sky). The bounding construction between each sole-occupancy unit and or communal room is to be provided with an

			FRL90/90/90. **Note**: See C3.11(d) and (g) for further comments. (b) A doorway in a Class 2 or 3 building must be protected if it provides access from a room not within a *sole-occupancy unit* to— (i) a *public corridor*, public lobby, or the like; or (ii) the landing of an internal non *fire-isolated stairway* that serves as a *required exit*. (c) A doorway in a Class 4 part of a building must be protected if it provides access to any other internal part of the building. **Comments**: The Class 3 sole-occupancy units on the first and second floor open onto an open balcony (open to the sky). **NSW C3.11(d)** (d) Protection for a doorway *required* under (a), (b) or (c) must be at least— (i) in a building of Type A construction — a *self-closing* –/60/30 fire door; and **Comments**: The doorway of communal room and room 1 on the ground floor open into to public corridor and are to be with a self-closing FRL-/60/30 fire door. **Capable of complying** (ii) in a building of Type B or C construction — a *self-closing*, tight fitting, solid core door not less than 35 mm thick, except— (iii) in a Class 3 building used as a *residential aged care building* protected with a sprinkler system complying with **Specification E1.5**, a tight fitting solid core door not less than 35 mm thick that is— (A) *self-closing*; or (B) fitted with a free-arm action closing device which closes the door or causes the door to remain closed (without preventing manual re-opening), upon the detection of smoke by a detector located within the room. (e) 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. (f) A door *required* by **(d)** may be *automatic*-closing in accordance with the following: (i) The *automatic*-closing operation must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway. (ii) Where any other *required* suitable fire alarm system, including a sprinkler system complying with **Specification E1.5**, is installed in the building, activation of the system must also initiate the *automatic*-closing operation. **(g)** In a Class 2 or 3 building where a path of travel to an *exit* does not provide a person seeking egress with a choice of travel in different directions to alternative *exits* and is along an open balcony, landing or the like and passes an *external wall* of— (i) another *sole-occupancy unit*; or (ii) a room not within a *sole-occupancy unit*, then that *external wall* must— (iii) be constructed of concrete or masonry, or be lined internally with a *fire-protective covering*; and (iv) have any doorway fitted with a *self-closing*, tight-fitting solid core door not less than 35 mm thick; and (v) have any *windows* or other openings— (A) protected internally in accordance with **C3.4**; or (B) located at least 1.5 m above the floor of the balcony, landing or the like. **Comments**: The building is Type A construction and has sole-occupancy

			that are opposite where a path of travel to an *exit* does not provide a person seeking egress with a choice of travel in different directions to alternative *exits* and is along the open balcony. **Recommendation**: The external walls of sole-occupancy units are to be provided with an FRL90/90/90 with the windows protected internally in accordance with C3.4 (louver windows do not comply) and doorways provided with FRL-/60/30, self-closing fire doors (Type A construction). **Capable of complying**
C3.12	Openings in floors for services	Applies	(a) Where a service passes through— (i) a floor that is required to have an FRL with respect to integrity and insulation; or (ii) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (b). (b) A service must be protected— (i) in a building of Type A construction, by a shaft complying with Specification C1.1; or (ii) in a building of Type B or C construction, by a shaft that will not reduce the fire performance of the building elements it penetrates; or (iii) in accordance with C3.15. (c) 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. **Capable of complying**
C3.13	Openings in shafts	Applies	In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by— (a) if it is in a sanitary compartment — a door or panel which, together with its frame, is non-combustible or has an FRL of not less than –/30/30; or (b) a self-closing –/60/30 fire door or hopper; or (c) an access panel having an FRL of not less than –/60/30; or (d) if the shaft is a garbage shaft — a door or hopper of non-combustible construction. **Capable of complying**
C3.15	Openings for service installations	Applies	Where an electrical, electronic, plumbing,

			mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with any one of the following: (a) Tested systems (i) The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire. (ii) It complies with (i) except for the insulation criteria relating to the service if— (A) the service is a pipe system comprised entirely of metal (excluding pipe seals or the like); and (B) any combustible building element is not located within 100 mm of the service for a distance of 2 m from the penetration; and (C) combustible material is not able to be located within 100 mm of the service for a distance of 2 m from the penetration; and (D) it is not located in a required exit. (b) Ventilation and air-conditioning — In the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS/NZS 1668.1. (c) Compliance with Specification C3.15 (i) The service is a pipe system comprised entirely of metal (excluding pipe seals or the like) and is installed in accordance with Specification C3.15 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling required to have a resistance to the incipient spread of fire; and (B) connects not more than 2 fire compartments in addition to any fire-resisting service shafts; and (C) does not contain a flammable or combustible liquid or gas. (ii) The service is sanitary plumbing installed in accordance with Specification C3.15 and it— (A) is of metal or UPVC pipe; and (B) penetrates the floors of a Class 5, 6, 7, 8 or 9b building; and (C) is in a sanitary compartment separated from other parts of the building by walls with the FRL required by Specification C1.1 for a stair shaft in the building and a self-closing –/60/30 fire door. (iii) The service is a wire or cable, or a cluster of wires or cables installed in accordance with Specification C3.15 and it— (A) penetrates a wall, floor or ceiling, but not a

			ceiling required to have a resistance to the incipient spread of fire; and (B) connects not more than 2 fire compartments in addition to any fire-resisting service shafts. (iv) The service is an electrical switch, outlet, or the like, and it is installed in accordance with Specification C3.15. **Capable of complying**

Item	Description	Status	Comments
S ECTI ON D	**ACCES S & EGRES S**		
PART D1	**PROVISION FOR ESCAPE**		
D1.1	Application of part	Applies	Capable of complying
D1.2	Number of Exits required	Applies	All buildings – Every building must have at least one exit from each storey. Complies Class 2,3 – (b) Class 2 to 8 buildings — In addition to any horizontal exit, not less than 2 exits must be provided from the following: (i) Each storey if the building has an effective height of more than 25 m. (ii) A Class 2 or 3 building subject to C1.5. Why do some buildings require multiple exits? The purpose of regulatory control over the number of exits in a building is to maximise the opportunities for people to have egress from the building in an emergency. Egress from some buildings can be very difficult (for example, particularly tall or large buildings, or even small buildings which have a complex passageway design). It may be necessary to provide several alternative exits. ~~Class **2** to Class 8 buildings — D1.2(b)~~ ~~The D1.2(b)(i) provision regarding an effective height of 25 metres recognises the effective operating height for fire brigade ladders and other fire-fighting and rescue equipment. Above this height, fire-fighting, rescue and egress problems increase considerably.~~ **Comments**: The building does not have an effective height of more than 25m and is not subject to C1.5. Each storey is provided with two (2) exit serving the Class 3 portion of the building. Complies Class 3 Ground Floor – The manager's unit, and conference Centre appear to be using the fire exit at the rear and at the Fisher St frontage. The travel distance to

			the fire stair or street is less than 20m. **Note**: See D1.4 and D1.7 for further comments. Class 6 Retail – One (1) exit is required. Complies Class 7a Car park – Two (2) exits are required. The plans indicate two exits leading to Fisher Rd and Francis St. The travel distance to the single exit is 30m. **Refer to D1.4 and D1.5 for further comments.**
D1.3	When fire isolated exits are required	Applies	(a) Class 2 and 3 buildings — Every stairway or ramp serving as a required exit must be fire-isolated unless it connects, passes through or passes by not more than— (i) 3 consecutive storeys in a Class 2 building; or **(ii) 2 consecutive storeys in a Class 3 building,** **and one extra storey of any classification may be included if—** (iii) **it is only for the accommodation of motor vehicles or for other ancillary purposes**; or (iv) the building has a sprinkler system complying with Specification E1.5 installed throughout; or (v) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (A) an FRL of –/60/60, if non-loadbearing; and (B) an FRL of 90/90/90, if loadbearing; and (C) no opening that could permit the passage of fire or smoke. **Comments**: The stairways are required to be fire isolated as the ground floor has not only accommodation of vehicles it has a Class 6 Commercial Premise that is not ancillary to the Class 3. **Capable of complying** ~~The stairways do not connect, pass through or passes by not more than 3 consecutive storeys.~~ ~~(b) Class 5, 6, 7, 8 or 9 buildings — Every stairway or ramp serving as a required exit must be fire-isolated unless—~~ ~~(i) in a Class 9a health care building — it connects, or passes through or passes by not more than 2 consecutive storeys in areas other than patient care areas; or~~

			~~(ii) it is part of an open spectator stand; or~~ ~~(iii) in any other case except in a Class 9c aged care building, it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if—~~ ~~(A) the building has a sprinkler system complying with Specification E1.5 installed throughout; or~~ ~~(B) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having—~~ ~~(aa) an FRL of –/60/60, if non-loadbearing; and~~ ~~(bb) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if loadbearing; and~~ ~~(cc) no opening that could permit the passage of fire or smoke.~~
D1.4	Exit travel distances	Applies	Class 2 or 3 – 6m from an exit or from a point from which travel in different direction to 2 exits is available. Complies Class 2 and 3 - 20m for ground sole-occupancy units having access to a single exit serving the storey at the level of egress to a road or open space. **Comments**: The sole-occupancy units are accessible units. 20m travel distance is provided to the fire-isolated passageway. Complies Class 6 and 7a – No point on a floor must be more than 20m from an exit, or a point from which travel in different direction to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m. Class 6 – 20m to single exit Complies Class 7a – The travel distance to single exit exceeds 20m Complies
D1.5	Distance between alternative exits	Applies	Class 2, 3, 6 and 7a – Located not less than 9m apart. **Capable of complying** Class 2, 3 – Not more than 45m apart. Complies

			Class 6 and 7a – Not more than 60m apart. **Capable of complying**
D1.6	Dimensions of exits	Applies	A minimum 1m clear path of travel to exits and along stairways and landings is to be provided. **Capable of complying**
D1.7	Travel via fire isolated exits	Applies	(a) A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— (i) a public corridor, public lobby or the like; or (ii) a sole-occupancy unit occupying all of a storey; or (iii) a sanitary compartment, airlock or the like. (b) Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway— (i) to a road or open space; or (ii) to a point— (A) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter; and (B) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space; or (iii) into a covered area that— (A) adjoins a road or open space; and (B) is open for at least 1/3 of its perimeter; and (C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (D) provides an unimpeded path of travel from the point of discharge to the road or open space of not more than 6 m. (c) Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have— (i) an FRL of not less than 60/60/60; and (ii) any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. (d) If more than 2 access doorways, not from a sanitary compartment or the like, open to a required fire-isolated exit in the same storey— (i) a smoke lobby in accordance with D2.6 must be provided; or (ii) the exit must be pressurised in accordance with AS/NZS 1668.1. (e) A ramp must be provided at any change in

			level less than 600 mm in a fire-isolated passageway in a Class 9 building. **Capable of complying**
D1.8	External stairways in lieu of fire isolated stairways	N/A	N/A
D1.9	Travel by non-fire isolated stairways or ramps	N/A	~~(a) 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.~~ ~~(b) In a Class 2, 3 or 4 building, the distance between the doorway of a room or sole-occupancy unit and the point of egress to a road or open space by way of a stairway or ramp that is not fire-isolated and is required to serve that room or sole-occupancy unit must not exceed—~~ ~~(i) 30 m in a building of Type C construction; or~~ ~~(ii) 60 m in all other cases.~~ **Comments**: ~~(c) In a Class 5, 6, 7, 8 or 9 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80 m.~~ ~~(d) In a Class 2, 3 or 9a building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than—~~ ~~(i) 15 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or~~ ~~(ii) 30 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions.~~ **Comments**: ~~(e) In a Class 5 to 8 or 9b building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than—~~ ~~(i) 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space; or~~ ~~(ii) 40 m from one of 2 such doorways or passageways if travel to each of them from the non-fire-isolated stairway or non-fire-isolated ramp is in opposite or approximately opposite directions.~~

			~~(f) In a Class 2 or 3 building, if 2 or more exits are required and are provided by means of internal non-fire-isolated stairways or non-fire-isolated ramps, each exit must—~~ ~~(i) provide separate egress to a road or open space; and~~ ~~(ii) be suitably smoke-separated from each other at the level of discharge.~~ **Comments**:
D1.10	Discharge from exits	Applies	(a) 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. (b) 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— (i) the minimum width of the required exit; or (ii) 1 m, whichever is the greater. (c) 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— (i) 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 D3; or (ii) ~~except if the exit is from a Class 9a building, a stairway complying with the Deemed-to-Satisfy Provisions of the BCA.~~ (d) The discharge point of alternative exits must be located as far apart as practical. An exit must not be blocked at the point of discharge and where necessary, suitable barriers must be provided to prevent vehicles from blocking the exit or access to it. **Capable of complying**
D1.11	Horizontal exits	Applies	**Capable of complying**
D1.12 and Specification C1.12	Non required stairways, ramps or escalators	N/A	N/A
D1.13	Number of persons accommodated	Noted	Noted
D1.14 & D1.15	Measurement of distances and method of measurement	Noted	Noted
D1.16	Plant rooms and lift monitor rooms: concession	Applies	(a) A ladder may be used in lieu of a stairway to provide egress from— (i) a plant room with a floor area of not more than 100 m2; or (ii) 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. (b) A ladder permitted under (a)— (i) may form part of an exit provided that in the case of a fire-isolated stairway it is contained within the shaft; or (ii) may discharge within a storey in which case it must be considered as forming part of the path of travel; and (iii) for a plant room or a Class 8 electricity network substation, must comply with AS 1657; and (iv) for a lift machine room, where access is provided from within a machine room to a secondary floor, a fixed rung type ladder complying with AS 1657 may be used, provided that— (A) the height between the floors is not more than 2800 mm; and (B) the ladder is inclined at an angle to the horizontal not less than 65 degrees nor more than 75 degrees; and (C) the distance between the front face of the ladder and any adjacent obstruction is not less than— (aa) 960 mm, where the ladder is inclined 65 degrees to the horizontal; or (bb) 760 mm, where the ladder is inclined 75 degrees to the horizontal; or (cc) a distance that is determined by interpolating the values in (aa) and (bb), where the ladder is inclined at any angle between 65 degrees and 75 degrees to the horizontal; and (D) a clear space not less than 600 mm exists between the foot of the ladder and any equipment. **Comments**: The plans are in preliminary draft. Further assessment is required. **Capable of complying**
D1.17	Access to lift pits	Applies	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 D1.6, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with AS 1657. (iv) In lieu of D2.21, doors fitted to the doorway must be—

			(A) of the horizontal sliding or outwards opening hinged type; and (B) self-closing and self-locking from the outside; and (C) marked on the landing side with the letters not less than 35 mm high: "DANGER LIFTWELL – ENTRY OF UNAUTHORIZED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES"• **Comments**: The plans are in preliminary draft. Further assessment is required. **Capable of complying**
PART D2	**CONSTRUCTION OF EXITS**		
D2.1	Application of part	Applies	Noted
D2.2	Fire isolated stairways and ramps	Applies	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed— (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft. **Comments**: Structural details required. **Capable of complying**
D2.3	Non-fire isolated stairways and ramps	N/A	~~In a building having a rise in storeys of more than 2, required stairs and ramps (including landings and any supporting building elements) which are not required to be within a fire-resisting shaft, must be constructed according to D2.2, or only of— (a) reinforced or pre-stressed concrete; or (b) steel in no part less than 6 mm thick; or (c) timber that— (i) has a finished thickness of not less than 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.~~
D2.4	Separation of rising and descending stair flights	N/A	~~If a stairway serving as an exit is required to be fire-isolated— (a) there must be no direct connection between— (i) a flight rising from a storey below the lowest level of access to a road or open space; and (ii) a flight descending from a storey above that level; and (b) any construction that separates or is common to the rising and descending flights must be— (i) non-combustible; and (ii) smoke proof in accordance with Clause 2 of~~

			~~Specification C2.5.~~ ~~**Comments**: The building has been designed to ensure that there is no direct connection from a flight rising from a storey below the lowest level of access to a road or open space (basement car park) and a flight descending (residential levels).~~
D2.5	Open access ramps and balconies	N/A	N/A
D2.6	Smoke lobbies	N/A	None proposed.

Item	Description	Status	Comments
D2.7	Installations in exits and paths of travel	Applies	Gas or other fuel services must not be installed in a required exit. Services or equipment comprising – Electricity meters, distribution boards or ducts, central telecommunications distribution boards or equipment or electrical motors or other motors serving equipment in the building may be installed in a required exit (except for fire-isolated exits) in any corridor, hallway, lobby or the like leading to a required exit if the services or equipment are enclosed by non-combustible construction or a fire protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure. **Capable of complying**
D2.8	Enclosure of space under stairs and ramps	N/A	~~The space below a required non-fire isolated stairway must not be enclosed to form a cupboard or other enclosed space unless the enclosing walls & ceilings have an FRL of not less than 60/60/60 and any access doorway to the enclosed space is fitted with a self-closing -/60/30 fire door.~~
D2.9	Width of stairways	N/A	The stairway does not exceed 2m in width.
D2.10	Pedestrian ramps, Also reference Part D3 & AS1428.1	N/A	(a) A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the width and ceiling height comply with the requirements for a fire-isolated stairway. (b) A ramp serving as a required exit must— (i) where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1; or (ii) in any other case, have a gradient not steeper than 1:8. (c) The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586. **Comments**: The plans do not indicate the use of a ramp.
D2.11	Fire isolated passageways	N/A	(a) The enclosing construction of a fire-isolated passageway must have an FRL when tested for

			a fire outside the passageway in another part of the building of— ~~(i)~~ if the passageway discharges from a fire-~~isolated stairway or ramp — not less than that~~ required for the stairway or ramp shaft; or ~~(ii)~~ in any other case — not less than 60/60/60. (b) Notwithstanding (a)(ii), the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of— ~~(i)~~ a non-combustible roof covering; or ~~(ii)~~ a ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.
D2.12	Roof as open space		If an exit discharges to a roof of a building, the roof must— ~~(a)~~ have an FRL of not less than 120/120/120; and ~~(b)~~ not have any rooflights or other openings within 3 m of the path of travel of persons using the exit to reach a road or open space.
D2.13	Treads and risers	Applies	**Capable of complying**
D2.14	Landings	Applies	**Capable of complying**
D2.15	Thresholds	Applies	**Capable of complying**
D2.16	Balustrades	Applies	Balustrades are to be a minimum of 1m in height and have no openings greater than 125mm. In addition to the above where floors are more than 4m above the surface beneath, any horizontal or near horizontal elements between 150mm and 760mm above the floor must not facilitate climbing. **Capable of complying**
D2.17	Handrails	Applies	Handrails in required non fire-isolated exits are to be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold. **Capable of complying**
D2.18	Fixed platforms, walkways, stairways and ladders	N/A	N/A
D2.19	Doorways and doors	Applies	**Capable of complying**
D2.20	Swinging doors	Applies	Required exit doors are to swing in the direction of egress. **Comments**: The following path of travel and exit doors need to be redesigned to swing in the direction of egress;

			Capable of complying
D2.21	Operation of latch	Applies	Lever downward action door hardware is to be installed on all required exits. **Capable of complying**
D2.22	Re-entry from fire isolated exits	Applies	(a) Doors of a fire-isolated exit must not be locked from the inside as follows: (i) In a Class 9a health-care building. (ii) In a Class 9c aged care building. (iii) In a fire-isolated exit serving any storey above an effective height of 25 m, throughout the exit. (b) The requirements of (a) do not apply to a door fitted with a fail-safe device that automatically unlocks the door upon the activation of a fire alarm and— (i) on at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or (ii) an intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation. **Capable of complying**
D2.23	Signs on fire doors	Applies	(a) A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to, a— (A) required fire door providing direct access to a fire-isolated exit, except a door providing direct egress from a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building; and (B) required smoke door, (i) on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and (ii) (A) fire door forming part of a horizontal exit; and (B) smoke door that swings in both directions; and (C) door leading from a fire isolated exit to a road or open space, on each side of the door. (b) A sign referred to in (a) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state— (i) for an automatic door held open by an automatic hold-open device—

			" FIRE SAFETY DOOR—DO NOT OBSTRUCT "•; or (ii) for a self-closing door— " FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN "•; or (iii) for a door discharging from a fire-isolated exit— "**FIRE SAFETY DOOR—DO NOT OBSTRUCT.**"• **Capable of complying**
PART D3	**ACCESS FOR PEOPLE WITH A DISABILITY**		
D3.1	General Building Access Requirements	Applies	Class 3 – **Common areas** From a pedestrian entrance *required* to be *accessible* to at least 1 floor containing *sole-occupancy units* and to the entrance doorway of each *sole-occupancy unit* located on that level. To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, *swimming pool*, common laundry, games room, TV room, individual shop, dining room, public viewing area, ticket purchasing service, lunch room, lounge room, or the like. Where a ramp complying with AS 1428.1 or a passenger lift is installed— (a) to the entrance doorway of each *sole-occupancy unit*; and (b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. **Comments**: Access is to be provided from the pedestrian entrance (property boundary) to at least 1 floor containing sole-occupancy units and to the entrance of the sole-occupancy unit doorways on that level and to a common area. The ground floor provides access to the entrance doorway of the accessible sole-occupancy unit and communal area. The ground floor accessible units have access to common areas on the first floor via a proposed chair lift. **Capable of complying** Class 3 – **Sole-occupancy units**

			Not more than 2 *required accessible sole-occupancy units* may be located adjacent to each other. Where more than 2 *accessible sole- occupancy units* are *required*, they must be representative of the range of rooms available. **Comments**: The building has 19 units and therefore, is required to have 2 accessible units. The plans indicate the 2 accessible unit (room 1 and 20). **Accessible** means having features to enable use by people with a disability to comply with AS142.1-2009. A design detail of each accessible unit is to be provided that demonstrates compliance with AS1428.1-2009. **Capable of complying** Class 6 – To and within all areas normally used by the occupants. **Capable of complying** Class 7a – To and within any level containing accessible car parking spaces. **Capable of complying**

Item	Description	Status	Comments
D3.2	Access to Buildings	Applies	**Capable of complying**
D3.3	Parts of Buildings to be Accessible	Applies	**Capable of complying**
D3.4	Exemptions	N/A	N/A
D3.5	Accessible Car parking	Applies	A shared space is to be provided in the car park with access to the accessible sloe-occupancy unit and communal area. **Capable of complying**
D3.6	Signage	Applies	The disabled car space and any accessible facility is to be suitably signed with the international symbol in accordance with AS1428.1. **Capable of complying**
D3.8	Tactile Indicators	Applies	The stairs leading from the carpark to first floor of the building are to be provided with suitable tactile indicators. **Capable of complying**

S ECTI ON E	**S ERVI CES & EQUI PMENT**		
PART E1	**FIRE FIGHTING EQUIPMENT**		
E1.3	Fire Hydrants	Applies	The building is to be serviced with a hydrant system. Hydraulic details and design certificate to be provided. **Capable of complying**
E1.4	Hose reels	N/A	Do not apply to a Class 2, 3 or Class 4 building. Class 7a and 6 Fire hose reels are to be provided to serve a fire compartment greater than 500m2 and to serve the building where internal fire hydrants are to be provided. Should the building be provided with internal fire hydrants each storey is to be served via hose reel system. Hydraulic details and design certificate to be provided. Floor area of car park and shop < 500m
E1.5 and Specification E1.5 – Fire Sprinkler Systems	Sprinklers		All Classes - A sprinkler system is required to serve throughout the whole building if any part of the building has an effective height of more than 25 m. Class 7a - A sprinkler system is required to serve in fire compartments where more than 40 vehicles are accommodated. **Comments**: The basement and ground floor ~~level car park (fire compartment) is provided~~ with more than 40 vehicles. Hydraulic details and design certificate to be provided.
E1.6	Portable fire extinguishers	Applies	The building is to be provided with Portable Fire Extinguishers. **Capable of complying**
E1.8 and Specification E1.8 – Fire Control Centres	Fire control centres	N/A	~~A fire control centre facility in accordance with Specification E1.8 must be provided for—~~ ~~(a) a building with an effective height of more than 25 m; and~~ ~~(b) a Class 6, 7, 8 or 9 building with a total floor area of more than 18 000 m2.~~ ~~**Comments**: A fire control centre is required to be included into the design in accordance with Spec E1.8 as the effective height of the building is more than 25m.~~
E1.9	Fire precautions during construction	Noted	Noted
E1.10	Provision for special hazards	N/A	N/A

PART E2	**SMOKE HAZARD MANAGEMENT**		
E2.1	Application of part	Noted	Noted
E2.2 and Specification E2.2a – Smoke Detection and Alarm Systems; Specification	General requirements	Applies	**<u>Smoke Detection</u>** The building is to be provided with an automatic smoke detection and alarm system complying with Spec E2.2a Clause 3, 4 and AS1670.1, and AS3786. **Note**: The building is to have a building occupant warning system (Spec E2.2a 6) and have a fire alarm monitored system (Spec E2.2a 7) Electrical details and design certificate are to be provided prior to issue of the Construction Certificate. **Capable of complying** **~~<u>Fire Isolated Exits</u>~~** ~~A required—~~ ~~(a) fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp serving—~~ ~~(i) any storey above an effective height of 25 m; or~~ ~~(ii) more than 2 below ground storeys, not counted in the rise in storeys in accordance with C1.2; or~~ ~~(iii) an atrium; or~~ ~~(iv) a Class 9a building with a rise in storeys of more than 2; or~~ ~~(v) a Class 9c aged care building with a rise in storeys of more than 2;~~ and ~~(b) fire-isolated passageway or fire-isolated ramp with a length of travel more than 60 m to a road or open space,~~ ~~must be provided with—~~ ~~(c) an automatic air pressurisation system for fire-isolated exits in accordance with AS/NZS 1668.1; or~~ ~~(d) open access ramps or balconies in accordance with D2.5.~~ ~~Notes:~~ ~~1. An automatic air pressurisation system for fire-isolated exits applies to the entire exit.~~ ~~2. Refer D1.7(d) for pressurisation of a fire-isolated exit having more than 2 access doorways from within the same storey.~~ **<u>Class 7a (Basement Car park)</u>** A Class 7a building, including a basement,

			provided with a mechanical ventilation system in accordance with AS 1668.2 must comply with clause 5.5 of AS/NZS 1668.1 except that— (a) fans with metal blades suitable for operation at normal temperature may be used; and (b) the electrical power and control cabling need not be fire rated. **Capable of complying**
E2.2b – Smoke Exhaust Systems; Specification E2.2c – Smoke and Heat Vents		N/A N/A	N/A N/A
Item	**Description**	**Status**	**Comments**
E2.3	Provision for special hazards	N/A	N/A

PART E3	**LIFT INSTALLATIONS**		
E3.1	Lift Installations	Applies	Should an electric passenger lift be installed and or an electrohydraulic passenger lift installation must comply with Specification E3.1. Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority. **Capable of complying**
E3.2	Stretcher facility in lifts		(a) A stretcher facility in accordance with (b) must be provided— ~~(i)~~ in at least one emergency lift required by E3.4; or ~~(ii)~~ where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12 m, in at least one of those lifts to serve each floor served by the lifts. (b) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level. **Comments**: The lifts are to be designed to accommodate stretcher facilities. Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority.
E3.3	Warning against use of lifts in fire	Applies	**Capable of complying**
E3.4	Emergency lifts	Applies	(a) At least one emergency lift complying with (d) must be installed in— (i) a building which has an effective height of more than 25 m; and

			(ii) a Class 9a building in which patient care areas are located at a level that does not have direct egress to a road or open space. ~~(b)~~ An emergency lift may be combined with a passenger lift and must serve those storeys served by the passenger lift so that all storeys of the building served by passenger lifts are served by at least one emergency lift. ~~(c)~~ Where two or more passenger lifts are ~~installed and serve the same storeys, excluding~~ a lift that is within an atrium and not contained wholly within a shaft— ~~(i)~~ at least two emergency lifts must be provided to serve those storeys; and ~~(ii)~~ if located within different shafts, at least one emergency lift must be provided in each shaft. (d) An emergency lift must— ~~(i)~~ be contained within a fire-resisting shaft in accordance with C2.10; and ~~(ii)~~ in a Class 9a building serving a patient care area— ~~(A)~~ have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3.4; and ~~(B)~~ be connected to a standby power supply system where installed; and (iii) if the building has an effective height of more than 75 m, have a rating of at least— (A) 600 kg if not provided with a stretcher facility; or (B) 900 kg if provided with a stretcher facility.
E3.5	Landings	Applies	Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Section D. **Capable of complying**
E3.6	Facilities for people with disabilities	Applies	Should a lift be installed the design is to comply with E3.6 and AS1735. **Comments**: Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority. **Capable of complying**
E3.7	Fire service controls	Applies	Where lifts serve any storey above an effective height of 12m, the following must be provided: (a) A fire service recall control switch complying with E3.9 for— ~~(i)~~ a group of lifts; or ~~(ii)~~ a single lift not in a group that serves the storey. (b) A lift car fire service drive control switch complying with E3.10 for every lift. **Comments**: Manufacturers specifications and design certification is to be provided to the Principal Certifying Authority.

E3.8	Aged care buildings	N/A	N/A
PART E4	**EMERGENCY LIGHTING, EXIT SIGNS & WARNING SYSTEMS**		
E4.2	Emergency lighting requirements	Applies	Emergency lighting is provided in common corridors, common open balconies and public areas including car park to comply with AS2293.1-2005. Electrical details and design certificate are to be provided prior to issue of the Construction Certificate. **Capable of complying**
E4.5	Exit signs	Applies	The building is to be provided with exit lighting over required exits to comply with AS2293.1-2005. Electrical details and design certificate are to be provided prior to issue of the Construction Certificate. **Capable of complying**
E4.6	Direction signs	Applies	The building is to be provided with directional exit lighting to assist occupant in identifying the exits to comply with AS2293.1-2005. Electrical details and design certificate are to be provided prior to issue of the Construction Certificate. **Capable of complying**
E4.7	Class 2 and 3 buildings and Class 4 parts: exemptions	N/A	N/A
E4.9	Sound systems and intercom systems for emergency purposes	N/A	~~A sound system and intercom system for emergency purposes complying where applicable with AS 1670.4 must be installed—~~ ~~(a) in a building with an effective height of more than 25 m; and~~ ~~(b) in a Class 3 building having a rise in storeys of more than 2 and used as—~~ ~~(i) the residential part of a school; or~~ ~~(ii) accommodation for the aged, children or people with a disability; and~~ ~~(c) in a Class 3 building used as a residential aged care building, except that the system—~~ ~~(i) must be arranged to provide a warning for occupants; and~~ ~~(ii) in areas used by the residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents; and~~ ~~(d) in a Class 9a building having a floor area of more than 1000 m2 or a rise in storeys of more than 2, and the system—~~ ~~(i) must be arranged to provide a warning for occupants; and~~

			~~(ii) in a ward area, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of patients; and~~ ~~(e) in a Class 9b building—~~ ~~(i) used as a school and having a rise in storeys of more than 3; or~~ ~~(ii) used as a theatre, public hall, or the like, having a floor area more than 1000 m2 or a rise in storeys of more than 2.~~ **Comments:** The building is not designed to accommodate solely people with disabilities, or aged or children.
Item	**Description**	**Status**	**Comments**
S ECTI ON F	**HEALTH & AMENI TY**	Applies	
PART F2	**SANITARY & OTHER FACILITIES**		
F2.1	Facilities in Residential Buildings	Applies	Facilities for residents— For each building or group of buildings, provide— . (a) a bath or shower; and . (b) a closet pan; and . (c) a washbasin, for each 10 residents for whom private facilities are not provided, except that— (c) if one urinal is provided for each 25 males up to 50 and one additional urinal for each additional 50 males or part thereof, one closet pan for each 12 males may be provided. Facilities for employees — see F2.3. **Note:** These facilities need not be situated within the building. The managers unit provides for the facilities under F.3. Complies **<u>Facilities for employees</u>** If the building contains more than 10 sole-occupancy units the building is required to have a closet pan and washbasin in a compartment or room at or near ground level and accessible to employees without entering a sole-occupancy unit. **Comments**: The building has been designed to

			incorporate facilities for employees. See also F2.3.
F2.3	Facilities in Class 3 to 9 Buildings	Applies	It is anticipated that each Class 6 sole-occupancy unit will employ less than 10 persons. The plans are to be amended to indicate the use of a uni-sex disabled facility to comply with AS1428.12009. ~~An ambulant facility is to be provided.~~ Plans scaled to 1:50 are to be provided for the sanitary facilities. **Capable of complying**

Legend:

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

4.0 CONCLUSION

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

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

1. Spec C1.1 – The building is to be designed to comply with Type A Construction.
2. C2.6 – Vertical and horizontal separation is to comply with Clause C2.6.
3. C2.9 - Structural details are required to confirm FRL compliance between the floor separating different Classifications.
4. C3.2 - The plans indicate that openings are provided within 3m of the fire source feature that require protection in accordance with C3.4.
5. C3.4 - The openings within 3m of the fire-source feature are to be protected by nib wall construction as a permanent measure to protect the openings, relocate the opening > 3m or fitted with a drencher system.
6. C3.5 - Self-closing fire doors are to be provided in separating walls that have the same integrity of the FRL required with a concession for the insulation which is to be 30min. A door schedule is to be provided to confirm compliance.
7. C3.11 - Sole-occupancy unit entry doors shall be provided with Self-closing, FRL-/60/30 fire doors. A door schedule is to be provided to confirm compliance.
8. C3.11 - The external walls of sole-occupancy units are to be provided with an FRL90/90/90 with the windows protected internally in accordance with C3.4 (louver windows do not comply) and doorways provided with FRL-
   /60/30, self-closing fire doors (Type A construction).

9. The stairways are required to be fire isolated as the ground floor has a Class 6 Commercial Premise that is not ancillary to the Class 3.

10. D2.16 - Handrails in fire-isolated exits are to be continuous between stair flight landings and have no obstruction on or above them that will tend to break a hand-hold.
11. D2.17 – Where floors are more than 4m above the surface beneath, any horizontal or near horizontal elements between 150mm and 760mm above the floor must not facilitate climbing.
12. D2.20 & D2.21 – Required exits are required to swing outwards and be provided with lever downward action door hardware.
13. E1.3 - The building is to be serviced with a hydrant system. Hydraulic details and design certificate to be provided.
14. E1.4 - Class 7a and 6 Fire hose reels are to be provided to serve a fire compartment greater than 500m2 and to serve the building where internal fire hydrants are to be provided. Should the building be provided with internal fire hydrants each storey is to be served via hose reel system. Hydraulic details and design certificate to be provided.
15. E1.6 – The building is to be provided with portable fire extinguishers.
16. E2.2 - The building is to be provided with an automatic smoke detection and alarm system complying with Spec E2.2a Clause 3, 4 and AS1670.1, and AS3786. **Note**: The building is to have a building occupant warning system (Spec E2.2a 6) and have a fire alarm monitored system (Spec E2.2a 7) Electrical details and design certificate are to be provided prior to issue of the Construction Certificate.
17. E3.1 & E3.6 - The chair lift design is to comply with E3.1, E3.6 and AS1735 and manufacturer details are to be provided.

18. E4.2, E4.5 & E4.6 – Emergency lighting and exit signage to be installed in the building. Electrical details and design certificate are to be provided prior to issue of the Construction Certificate.

19. F2.3 - The plans are to be amended to indicate the use of a uni-sex disabled facility to comply with AS1428.12009 located in the proposed shop.

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

APPENDIX A - FIRE SAFETY SCHEDULE

17 Maloney Street, Mascot – Boarding House

Fire Safety Measures	Existing Standard of Performance	Proposed Standard of Performance
Automatic fire detection and alarm system (Building occupant warning and system monitored)		BCA E2.2, Spec E2.2a & AS1670.1-2004, AS3786-1993
Emergency lighting		BCA E4.2, E4.4 & AS/NZS2293.1-2005
Exit signs		BCA E4.5, E4.6, E4.8 & AS/NZS2293.1-2005
Fire doors		BCA Spec C3.4 & AS1905.1-2005
Fire hydrant systems		BCA E1.3 & AS2419.1-2005
Fire seals protecting openings in fire resisting components of the building		BCA C3.12, C3.15 & Spec C3.15
Mechanical air handling system (Class 7a Car park)		BCA E2.2, Spec E2.2b & AS/NZS1668.1-1998
Portable fire extinguishers (Common areas and Class 5 “Shops” and Class 7a “Car park”		BCA E1.6 & AS2444-2001
Smoke detector and heat detectors		BCA E2.2, Spec E2.2a & AS1670.1-2004, AS3786-1993
Wall wetting sprinkler and drencher system		BCAC3.4
Warning and operational signs		EPA Regulation (reg 138), BCA E3.3 (lifts) & D2.2.3 (signs on exit doors)

APPENDIX B – TABLE 3 TYPE A CONSTRUCITON FRL OF BUILDING ELEMENTS

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)			
	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 *fire-source feature* 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 m 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 *external wall*—				
For *loadbearing* columns—				
	90/–/–	120/–/–	180/–/–	240/–/–
For non-*loadbearing* columns—				
	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair *shafts*—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding *public corridors*, public lobbies and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion —				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES				
and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

APPENDIX B – TYPE A VERTICAL SEPERATION

Buildings of Type A construction

C2.6 generally applies to buildings of Type A construction and Class 9a buildings of Type B construction, because they are the only buildings required to provide fire separation between floors. This separation is achieved by the floor being required to have a fire-resistance level (FRL). It applies to openings above one another in different storeys if they are within a horizontal distance of 450 mm of each other.

It does not apply to:

- sprinkler protected buildings because the sprinklers should prevent the fire developing to the stage where it could spread to the floor above;
- openings in a fire-isolated stair shaft. This is because the stair shaft is not considered to be separate storeys and it is assumed that fire spread between floors will not occur via the stairway; or
- open-deck carparks and open spectator stands. This is because it is unlikely that fire would spread between floors in these types of buildings as their open construction allows the dissipation of the effects of fire.

In addition, Class 9a buildings of Type B construction require openings in external walls to be vertically separated in accordance with C2.6 as if the building was Type A construction (see C2.5(a)(iv)). This can be achieved either by the construction methods outlined below or the installation of sprinklers in the building. The reason for this is that it is important to inhibit the spread of fire between floors in Class 9a buildings.

Protection of vertically separated openings

C2.6 requires the vertical separation of openings in external walls (see C2.6(a) and (b)) of buildings of Type A construction which do not have a sprinkler system complying with Specification E1.5. The vertical separation of openings can be achieved by either of the following methods:

- a non-combustible spandrel or other non-combustible vertical construction having an overall height of 900 mm or more, extending at least 600 mm or more above the upper surface of the intervening floor, and having an FRL of 60/60/60 (see **C2.6(a)(i)**) as shown in Figure C2.6(1); or
- a non-combustible horizontal projection having an outwards projection from the external face of the wall of 1 100 mm or more, an extension along the wall beyond the openings of at least 450 mm, and having an FRL of 60/60/60 (see **C2.6(a)(iv)**) as shown in Figure C2.6(2).

If the external wall of the building is a glass curtain wall, **C2.6(a)(iii)** contains specific provisions to stop or limit the spread of fire and smoke between the glass and the edge of the concrete floor. The details are shown in Figure C2.6(3).

Although it could be argued that the spandrel or vertical projection should have the same FRL as the floor separating the storeys, this has not been found to be necessary.

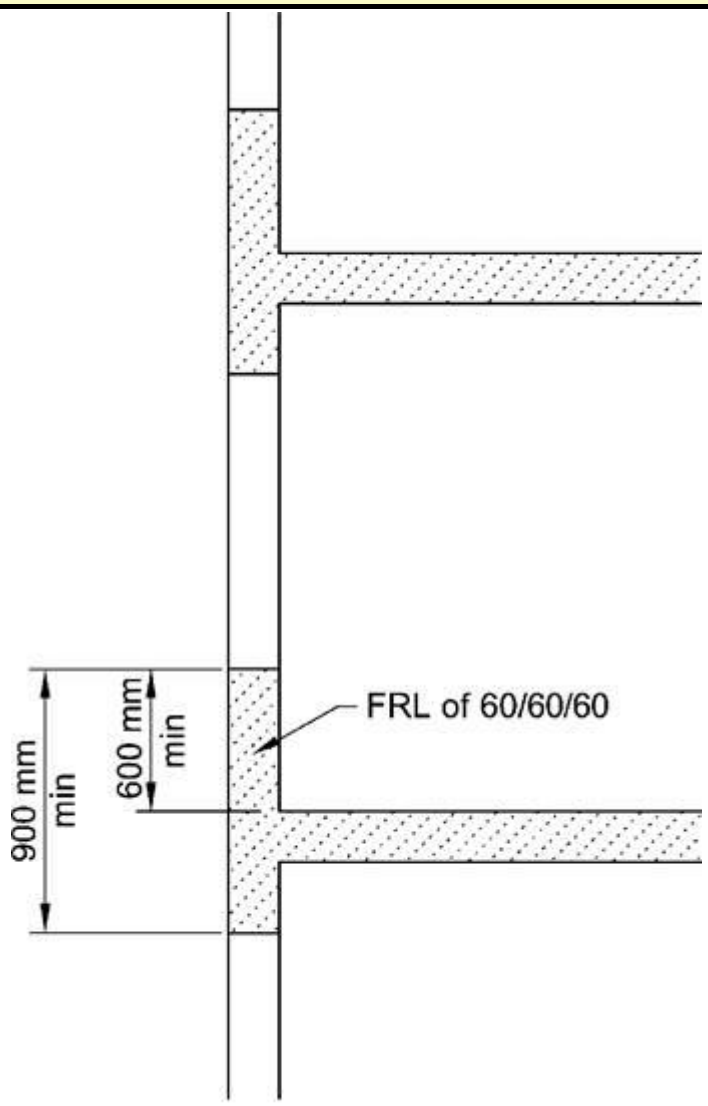
Meaning of "window or other opening"

C2.6(c) explains the meaning of the term "window or other opening" as used in C2.6(a). Basically, the term is used to describe a part of the external wall which does not have an FRL of at least 60/60/60 to limit the spread of fire from one storey to another by passing out through the window or opening and then re-entering the building through a similar opening (i.e. one without an FRL of at least 60/60/60) on the storey above. Examples of such openings include:

- windows;
- glass curtain walls;
- non-fire rated panels; and
- other parts of the wall that do not have an FRL of at least 60/60/60.

Figure C2.6(1)

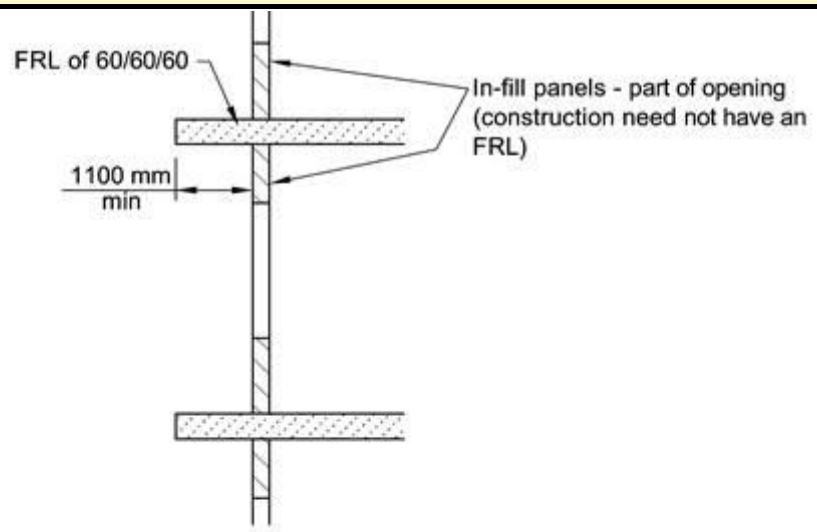
SECTION SHOWING USE OF SPANDREL TO SEPARATE EXTERNAL WINDOW OPENINGS



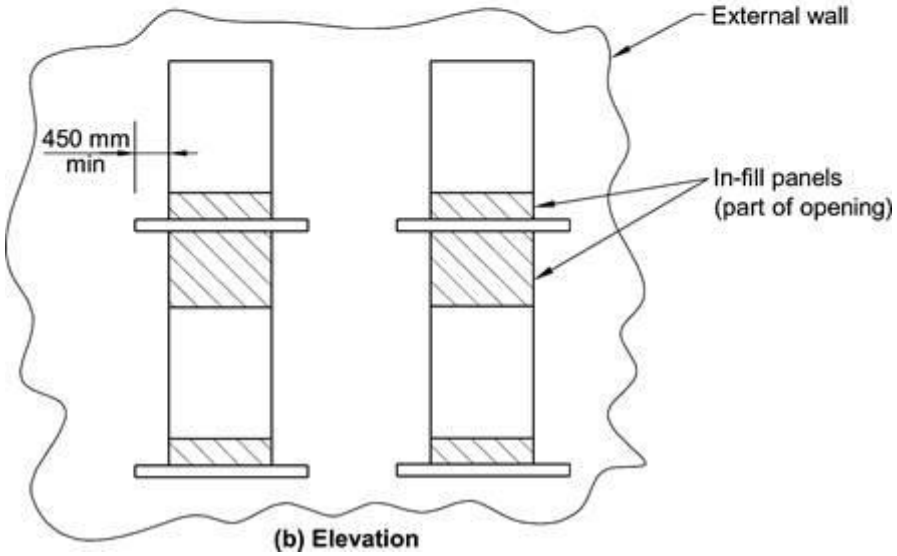
Section

Figure C2.6(2)

EXAMPLE SHOWING USE OF SLAB OR HORIZONTAL CONSTRUCTION TO SEPARATE EXTERNAL WINDOW OPENINGS



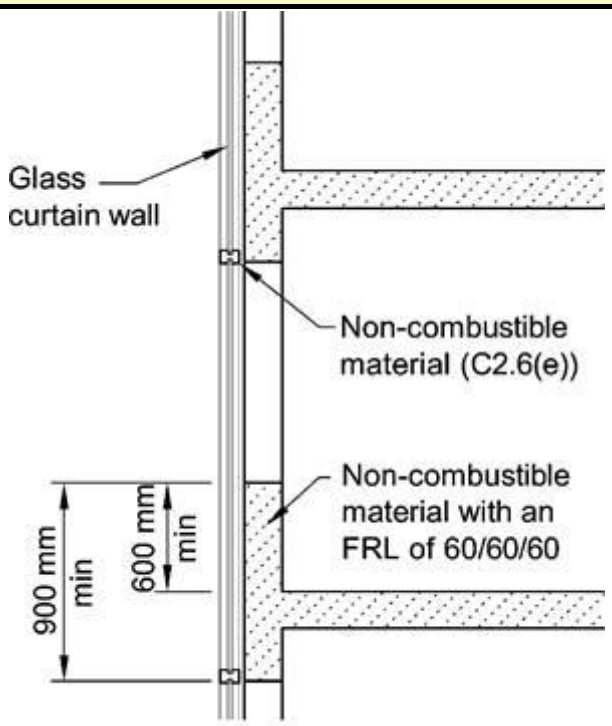
(a) Section



(b) Elevation

Figure C2.6(3)

SECTION SHOWING SEPARATION OF EXTERNAL WINDOW OPENINGS IN A CURTAIN WALL



Section