



BCA & DDA ASSESSMENT REPORT

**DOOLEYS LIDCOMBE CATHOLIC CLUB
JOHN STREET, LIDCOMBE NSW**

Revision 3

24 June 2016

Project No.: 150570



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REPORT STATUS				
DATE	REVISION	STATUS	AUTHOR	REVIEWED
10/03/2016	0	For DA Submission	DG	BH
14/03/2016	1	Updated Report For DA Submission	DG	BH
15/04/2016	2	Updated Report incl. Carpark Building	DG	BH
24/06/2016	3	Updated Report – EIS	DG	BH

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A. INTRODUCTION

A.1 BACKGROUND / PROPOSAL

This BCA/DDA Assessment Report has been prepared on behalf of DOOLEYS Lidcombe Catholic Club (“the Proponent”) pursuant to the provisions of clause 145 of the *Environmental Planning & Assessment Regulation 2000* and clause 18 of the *Building Professionals Regulation 2007*. It accompanies an Environmental Impact Statement (EIS) prepared in support of State Significant Development Application SSD_7603 for the staged development of the DOOLEYS Lidcombe site (“DOOLEYS”) at Nos. 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26 and 28 Board Street, Nos. 3, 5, 7, 11 and 17 Ann Street and Nos. 24-28 John Street, Lidcombe.

We note that this application seeks staged development approval for tourist related purposes comprising a concept proposal (including building envelopes, basement envelope, land uses, internal roads and connections to external road network) and Stage 1 works (including early works, site preparation, basement excavation and above ground multi-deck car park) at DOOLEYS Lidcombe Catholic Club.

Details of the project are described below:

(1) Concept Proposal

A Concept Proposal has been prepared for the site to guide its future redevelopment and is intended to provide a statutory framework for the long term planning of the site. The concept proposal is for tourist related purposes, including building envelopes, basement envelope, land uses, internal roads and connections to external road network. Specifically, the concept proposal comprises:

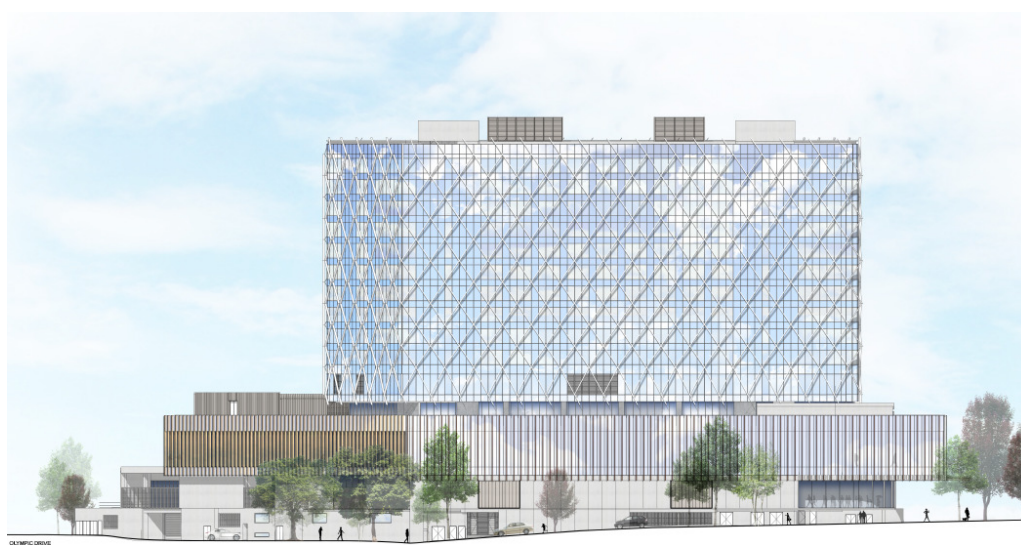
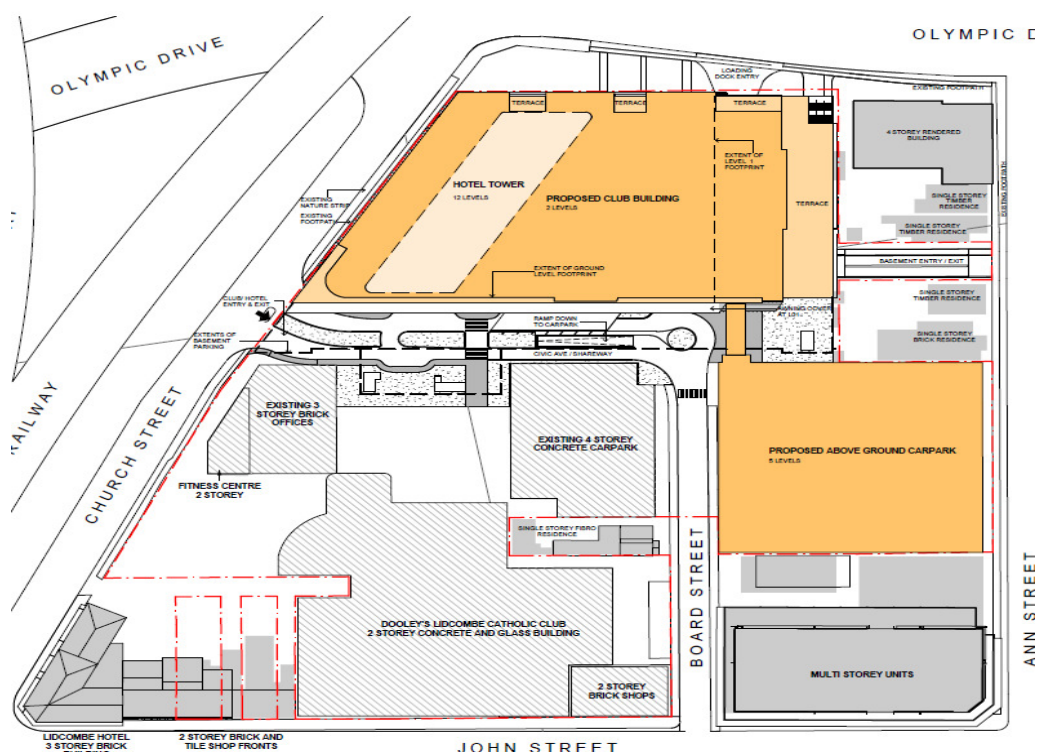
- + Two levels of basement car parking;
- + New two storey podium containing new Club facilities and other facilities associated with the proposed hotel, including conferencing; food and beverage and gym;
- + New 12 storey Club and hotel tower above the podium with approximately 260 rooms;
- + New five storey above ground multi deck parking building (initially to provide car parking to enable the on-going operations of the existing Club through the redevelopment process); and,
- + New internal road access and connection points to surrounding road network.

(2) Detailed Proposal for “Stage 1” development

This is a detailed proposal for early works, site preparation, excavation of the basement and construction of the above ground multi deck car park.

- + Bulk earthworks for two levels of basement
- + Hoarding;
- + Site establishment;
- + Infrastructure preparation works;
- + Construction Management including proposed site access and construction traffic management;
- + Construction of an above ground multi deck car park located between Board Street and Ann Street.

The purpose of this is to provide an assessment of the proposal as described above and detailed within the EIS



Source: PTW Site Plan and Elevations.

A.2 AIM

The aim of this report is to:

- + Undertake an assessment of the proposed Club Facility & Hotel building against the Deemed-to-Satisfy (DtS) Provisions of the BCA 2016.
- + Identify any BCA compliance issues that require resolution/attention for the proposed development.

A.3 PROJECT TEAM

The following BM+G team members have contributed to this report:

- + Dean Goldsmith (Director)



- + Bradley Holmes (Accredited Certifier)

A.4 DOCUMENTATION

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- + BCA 2016
- + Guide to the BCA 2016.
- + Architectural plans prepared by PTW :

Drawing No.	Rev	Date	Drawing No.	Rev	Date
DA-0000	-	16.06.2016	DA-0131	-	16.06.2016
DA-0001	-	16.06.2016	DA-0132	-	16.06.2016
DA-0002	-	16.06.2016	DA-0140	-	16.06.2016
DA-0003	-	16.06.2016	DA-0141	-	16.06.2016
DA-0004	-	16.06.2016	DA-0150	-	16.06.2016
DA-0010	-	16.06.2016	DA-0151	-	16.06.2016
DA-0011	-	16.06.2016	DA-0152	-	16.06.2016
DA-0012	-	16.06.2016	DA-0160	-	16.06.2016
DA-0013	-	16.06.2016	DA-0190	-	16.06.2016
DA-0014	-	16.06.2016	DA-0210	-	16.06.2016
DA-0020	-	16.06.2016	DA-0211	-	16.06.2016
DA-0021	-	16.06.2016	DA-0212	-	16.06.2016
DA-0030	-	16.06.2016	DA-0213	-	16.06.2016
DA-0040	-	16.06.2016	DA-0214	-	16.06.2016
DA-0050	-	16.06.2016	DA-0230	-	16.06.2016
DA-0051	-	16.06.2016	DA-0231	-	16.06.2016
DA-0108	-	16.06.2016	DA-0240	-	16.06.2016
DA-0109	-	16.06.2016	DA-0241	-	16.06.2016
DA-0110	-	16.06.2016	DA-0250	-	16.06.2016
DA-0111	-	16.06.2016	DA-0251	-	16.06.2016
DA-0112	-	16.06.2016	DA-0260	-	16.06.2016
DA-0113	-	16.06.2016	DA-0270	-	16.06.2016
DA-0114	-	16.06.2016	DA-0271	-	16.06.2016
DA-0116	-	16.06.2016			

Note: The basement plans and Hotel/Club floor plans are indicative only.

A.5 REGULATORY FRAMEWORK

Pursuant to clause 145 of the Environmental Planning and Assessment (EPA) Regulation 2000 all new building work must comply with the current BCA however the existing features of an existing building need not comply with the BCA unless upgrade is required by other clauses of the legislation.



Clause 143(3) of the EPA Regulation 2000 prevents a certifying authority from issuing a construction certificate if the proposed new work will result in a reduction to the fire protection and structural capacity of the building.

A.6 LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this report are as follows:

- + The following assessment is based upon a review of the architectural documentation.
- + In relation to our assessment & comments regards to the Disability Discrimination Act (DDA) 1992 – this has been carried in relation to the Access to Premises (Buildings) Standards only, which effectively replicate the accessibility requirements of the NCC Vol.1.
- + The Report does not address matters in relation to the following:
 - i. Local Government Act and Regulations.
 - ii. NSW Public Health Act 1991 and Regulations.
 - iii. Occupational Health and Safety (OH&S) Act and Regulations.
 - iv. Work Cover Authority requirements.
 - v. Water, drainage, gas, telecommunications and electricity supply authority requirements.
- + BM+G Pty Ltd do not guarantee acceptance of this report by Local Council, NSW Fire Brigades or other approval authorities.
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A.7 TERMINOLOGY

Alternative Solution

A Building Solution which complies with the Performance Requirements other than by reason of satisfying the DtS Provisions.

Building Code of Australia (BCA)

Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in New South Wales (NSW) under the provisions of the EPA Act and Regulation. Building regulatory legislation stipulates that compliance with the BCA Performance Requirements must be attained and hence this reveals BCA's performance based format.

Construction Certificate

Building Approval issued by the Certifying Authority pursuant to Part 4A of the EP&A Act 1979.

Construction Type

The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in C1.5; and
- (ii) a Class 4 part of a building located on the top storey in C1.3(b); and
- (iii) open spectator stands and indoor sports stadiums in C1.7.



Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

Climatic Zone

Is an area defined in BCA Figure A1.1 and in Table A1.1 for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Deemed to Satisfy Provisions (DtS)

Provisions which are deemed to satisfy the Performance Requirements.

Effective Height

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

Entertainment Venue

A building used as a cinema, theatre or concert hall or an indoor sports stadium.

Fire Resistance Level (FRL)

The grading periods in minutes for the following criteria-

- (a) structural adequacy; and
- (b) integrity; and
- (c) insulation,

and expressed in that order.

Fire Source Feature (FSF)

The far boundary of a road which adjoins the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

National Construction Code Series (NCC)

The NCC was introduced 01 May 2011 by the Council of Australian Governments. The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

Occupation Certificate

Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 4A of the EPA Act 1979.

Open Space

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

Open Deck Carpark

A carpark in which all parts of the parking storeys are cross-ventilated by permanent unobstructed openings in not fewer than 2 opposite or approximately opposite sides; and (a) each side that provides ventilation is not less than 1/6 of the area of any other side; and (b) the openings are not less than 1/2 of the wall area of the side concerned.

Performance Requirements of the BCA

A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

- (a) complying with the DtS Provisions; or



- (b) formulating an Alternative Solution which-
 - (i) complies with the Performance Requirements; or
 - (ii) is shown to be at least equivalent to the DtS Provisions; or
- (c) a combination of (a) and (b).

Sole Occupancy Unit (SOU)

A room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes a dwelling.



B. BUILDING CHARACTERISTICS

B.1 BUILDING CLASSIFICATION

The following table presents a summary of relevant building classification items of the proposed club and hotel building:

▪ BCA Classification:	Class 3 (Hotel Rooms) Class 5 (Offices) Class 6 (Retail/Restaurants/Cafe) Class 7a (Carpark - including Basement & stand-alone Carpark Building) Class 7b (Loading Dock & Storage Areas) Class 8 (Substation) Class 9b (Club Facilities/Bars)
▪ Rise in Storeys:	Club / Hotel - Sixteen (16). Carpark Building - Four (4)
▪ Effective Height:	Club / Hotel - Effective Height > 50m Carpark Building - Effective Height >12m (12.7m)
▪ Type of Construction:	Type A Construction
▪ Climate Zone:	Zone 6

Note 1: Confirmation has been provided via Bouygues Constructions Australia that the proposed Auditorium/Function spaces on Level 1 will not be utilised by the Club for any activities that fall within the definition of an "Entertainment Venue" (as referenced above) and as such no assessment of the associated NSW BCA Variations in this regard have been carried out.

Note 2: The stand-alone carpark building is an open deck carpark by definition given the proposed cross ventilation provided via the northern and southern facades. In this regard the Architect will be required to confirm that a minimum of 50% openings are evenly distributed across these facades to ensure the open deck carpark concessions (detailed below) can be implemented into the design.

B.2 FIRE SOURCE FEATURE

The distances from the nearest Fire Source Features are:

BOUNDARY	DISTANCE TO FIRE SOURCE FEATURE
Western Boundary	Club/Hotel - >6m (the boundary across the road) Carpark Building - Part 0m (Boundary) & Approx. 16.5m to new Club)
Southern Boundary	Club/Hotel - >6m (the boundary across the road) Carpark Building - Approx. 12m (far boundary of Broad St)
Northern Boundary	Club/Hotel - >6m (the rear allotment boundary) Carpark Building - Approx. 16.5m (far boundary of Ann St)
Eastern Boundary	Club/Hotel - >6m (the existing buildings on the allotment) Carpark Building - 0m (side boundary)



C. SUMMARY OF KEY COMPLIANCE ISSUES

The following comprises a summary of the key compliance items identified in Section D of the report that will need to be addressed prior to issue of the respective Construction Certificates:

C.1 MATTERS TO BE JUSTIFIED AS FIRE SAFETY ENGINEERED ALTERNATIVE SOLUTIONS

BCA CLAUSES		DESCRIPTION
1.	C2.2	The fire compartment size of the two Club Levels (Ground & Level 1) exceeds the maximum floor area volume limitations of Table C2.2.
2.	C2.8, C2.9 & Spec C1.1	Potential reduction of the FRL's to the Basement Loading Dock areas and to the Class 6 Retail/Restaurant areas on Ground, Level 1 & Level 2.
3.	Spec. C1.1 & C3.2	The allotment boundary returns along the Broad Street frontage on the SE corner of the carpark building and this portion of the southern façade of the carpark is proposed to be open – an alternative solution will be required to address both FRL and protection of openings in this portion of the southern façade.
4.	D1.4/D1.5	The extended travel distances, distances to a point of choice to alternative exits and distance between alternative exits throughout the building will need to be considered under a performance solution.
5.	D1.6	The aggregate egress width from Level 1 will need to be addressed as an alternative solution – all other levels are compliant.
6.	D1.7	Discharge path of Fire Stair 11 of Ground Floor is located within 6m of the existing adjacent building and will require assessment to determine if protection per C3.4 to the existing building is not required.
7.	E1.3	The hydrant booster location is not visible from all building entrances and will not be shielded with a compliant radiant heat shield and hydrants may need to be excluded from the Chamber Substation of Basement Level B1.
8.	E1.4	Fire Hose Reels may need to be excluded from the Chamber Substation of Basement Level B1.
9.	E1.5	Sprinkler alarm valves are required to be accessed via a stairway from the adjacent road (Church St), and sprinklers may need to be deleted from the Chamber Substation of Basement Level B1.
10.	E1.8	The Fire Control Centre is located on Basement Level B1 which requires a level change of >300mm contrary to Spec. E1.8.
11.	E2.2	Smoke Hazard Management Systems serving the Club & Lower Hotel levels of the building will need to be the subject of further assessment in conjunction with the egress assessment identified above.
12.	E3.6	The Chamber Substation of Basement Level B1 will not be served by an Emergency Lift.
13.	E4.9	SSISEP may need to be excluded from the Chamber Substation of Basement Level B1.



D. BCA ASSESSMENT

D.1 BCA DEEMED-TO-SATISFY COMPLIANCE ISSUES:

Note: The following is a précis of the provisions and should be read in conjunction with the BCA.

SECTION B - STRUCTURE

1. Part B1 – Structural Provisions

Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1 in relation to the new structural elements of the building.

Comments: Details are to be provided confirming that the design achieves compliance with the following is required at the time of application for Construction Certificate, inclusive of reference to the following Australian Standards (where relevant):

1. AS 1170.0 – 2002 General Principles
2. AS 1170.1 – 2002, including certification for balustrades (dead and live loads)
3. AS 1170.2 – 2002, Wind loads
4. AS 1170.4 – 2007, Earthquake loads
5. AS 3700 – 2001, Masonry code
6. AS 3600 – 2009, Concrete code
7. AS 4100 – 1998, Steel Structures and/or
8. AS 4600 – 2005, Cold formed steel.
9. AS 2047 – 1999, Windows in buildings.
10. AS 1288 – 2006, Glass in buildings.
11. AS 3660.1 – 2000, Termite control (or confirmation no primary building elements are timber)..

In addition, details pertaining to the method of addressing attack from subterranean termites are to be provided with the application for Construction Certificate.

SECTION C – FIRE RESISTANCE

FIRE RESISTANCE AND STABILITY

2. Clause C1.1 – Type of Construction Required

The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as allowed for in this clause.

The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as allowed for in this

Comments: Type A construction applies to both buildings as they have a rise in storeys of more than 3. Refer to comments under Spec. C1.1 below and Appendix 1. Note 1: Details of the proposed fire separation between the Hotel SOU's on Levels 4-13 are required to be provided to determine compliance with Spec. C1.1. Note 2: Refer to C2.8 below.

3. Clause C1.10 – Fire Hazard Properties

The fire hazard properties of the following linings, materials and assemblies in a Class 2 to 9 building must comply with **Specification C1.10** and the additional requirements of the **NSW Provisions** of the Code.

Comments: Architect to note. Details for compliance can be sought at the Occupation Certificate stage. It is noted that if the building design includes the use of Aluminium Composite



Panels (ACP) to the external façade. Plans including elevations and sections showing how each ACP will be used (i.e. forming part of the external wall vs. attachment to the external wall) including a mark-up of the elevations hi-lighting the areas that this product is proposed to be used and the test report for each specific ACP showing combustibility and fire hazard properties shall be provided to allow for further assessment against the requirements of this clause and Specification C1.1 prior to the issue of the relevant Construction Certificate.

Part C2 Compartmentation and Separation

4. Clause C2.2 – General Floor Area and Volume Limitations

Sets out the parameters for the area and volume of Class 5, 6, 7, 8 & 9 buildings as required by sub-clauses (a), (b) & (c).

Comments: The maximum compartment size permitted to the Class 6 part is 5,000m² with a volume of 30,000m³, and in the Class 9b parts is 8,000m² with a volume of 48,000m³. The floor area of the compartment formed by the two (2) interconnected Club levels (Ground Floor & Level 1) exceeds 13,000m² and as such will need to be addressed as an alternative solution by the fire engineer. In this regard the relevant Performance Requirements are CP1 and CP2.

5. Clause C2.6 – Vertical Separation of Openings in External Walls

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 and horizontal or vertical spandrel with an FRL of 60/60/60, and 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: Spandrel protection is not required to be provided as the proposed buildings will be fitted with a sprinkler system complying with BCA Spec E1.5 throughout.

6. Clause C2.7 – Separation by Fire Walls

Separation of Fire Compartments must be constructed in accordance with the following:

- FRL to be continuous and extend to the underside of a floor with the same FRL, or to the underside of a non-combustible roof covering.
- Any openings in a fire wall must not reduce the, except where permitted by the Deemed-to-Satisfy Provisions of Part C3 (i.e. fire doors; protection of services).
- 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.

Comments: Compliance is readily achievable. Note: See C2.8 below – a fire wall is required on Basement Levels B1 and B2 to separate the Class 7a Carpark areas from the Class 7b Loading Dock, Plantroom and Storage areas.

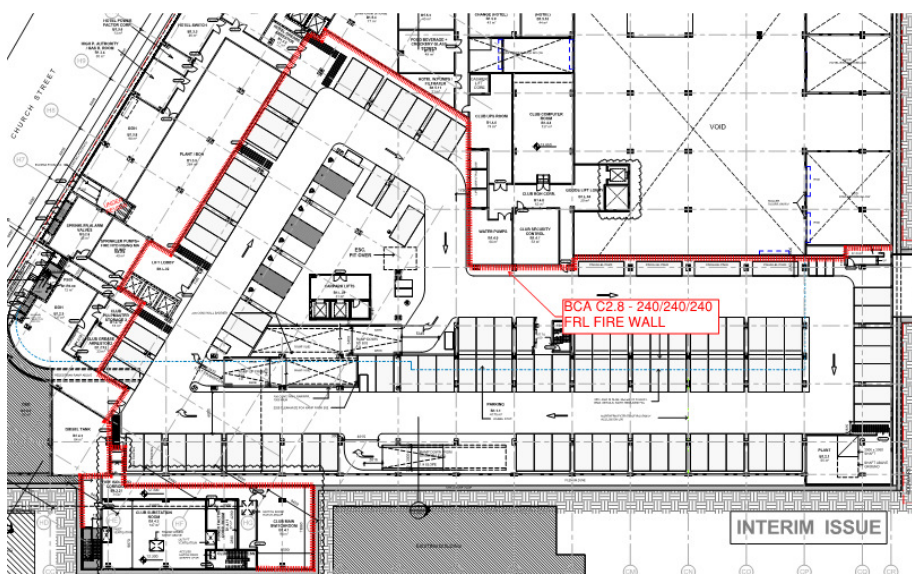
7. Clause C2.8 – Separation of Classifications in the Same Storey

If a building has parts of different classifications located alongside one another in the same storey, each element must have the required higher FRL for the classifications concerned.

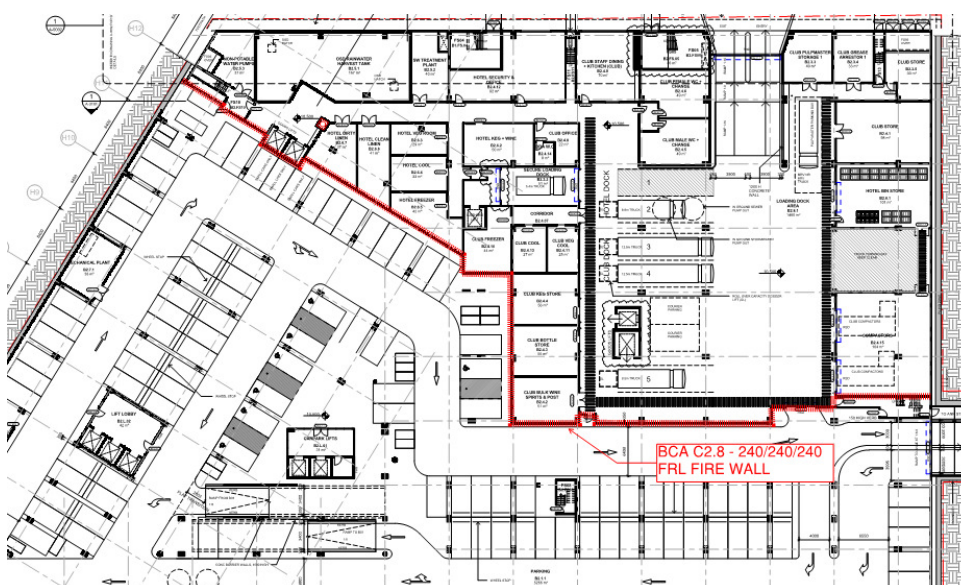
Alternatively, the parts must be separated by a fire wall having the higher FRL for the classifications prescribed in Table 3 or 4 of BCA Specification C1.1 (for Type a or Type B Construction), or Table 5 for Type C Construction.

Concessions are available for some carparks.

Comments: On Basement Levels B1 and B2 the Class 7a Carpark areas from the Class 7b Loading Dock, Plantroom and Storage areas are located adjacent to each other on the same storey and have differing FRL requirements (Class 7a – 2hrs & Class 7b – 4hrs). As such in accordance with C2.8(b) and 240/240/240 FRL fire wall is required to separate these areas on these levels in order to apply the lower FRL in the Class 7a portions of these storeys.



Basement Level B1 Fire Wall location



Basement Level B2 Fire Wall location

It is noted that an alternative solution may be considered by the Fire Safety Engineer for a reduced FRL of the subject fire walls and the building elements within the Class 7b/8 portions of these floors.

In relation to the adjacent Class 6 and Class 9b areas on Ground Level, Level 1 and Level 2, it is suggested that the provisions of C2.8(a) will apply, whereby the higher FRL's applicable to the Class 6 component will be applicable across the whole of these storeys and in turn no fire wall separation will be necessary – subject to input from the Fire Engineer in relation to C2.2 compliance. In addition, consideration may also be given to an alternative solution to reduce the 3hr FRL requirements applicable to the Class 6 areas on these floors.

8. Clause C2.9 – Separation of Classification in Different Storeys

This clause specifies the required separation between parts of a building which are of a different classification, situated one above another, to minimise the risk of a fire in one classification causing the failure of building elements in another classification in a different storey.

Comments: The FRL of the separating floors shall be in accordance with Table 3 of Specification C1.1. i.e. for example - The floor above the carpark is to achieve an FRL of



120/120/120.AS identified above, consideration may be given to an alternative solution from the Fire Engineer for a reduction in the higher FRL's applicable to the Class 7b and Class 6 component of the building in this regard.

9. Clause C2.10 – Separation of Lift Shafts

Applies to all classes of buildings and specifies the protection requirements for openings for lift shafts and lift landing doors. The requirements are set out in sub-clauses (a), (b) (c) & (d) which relate to openings in Type A, B and C construction. Also note the Deemed to Satisfy Provisions of Part C3.

Comments: The lifts serving all parts of both the Club/Hotel & Carpark buildings are required to be enclosed in a fire rated shaft achieving an FRL in accordance with Table 3 of Specification C1.1 for the classification applicable to the area in which the lifts are located on each storey.

10. Clause C2.12 – Separation of Equipment

Equipment as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 and doorways being self-closing -/120/30 fire doors:

- + Lift motors and lift control panels; or
- + Emergency generators used to sustain emergency equipment operating in the emergency mode; or
- + Central smoke control plant; or
- + Boilers; or
- + A battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.

Separation of on-site fire pumps must comply with the requirements of AS 2419.1.

Comments: Architect to note. Details of the enclosures containing the above equipment (where applicable) are to be noted on the floor plans) and enclosed in 120/120/120 FRL construction.

11. Clause C2.13 – Electricity Supply System

To ensure certain types of electrical equipment to operate during an emergency the requirements of sub-clauses (a), (b) (c), (d) & (e) must be complied with relating to sub-stations, sub-mains and main switchboards.

- (a) An electricity substation located within a building must –
 - (i) Be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and
 - (ii) Having any doorway in that construction protected with a self-closing fire door having an FRL of not less than -/120/30
 - (b) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must –
 - (i) Be separated from any other part of the building by construction having an FRL of not less than -/120/30.
 - (ii) Have any doorway in that construction protected with a self-closing fire door having an FRL of not less than -/120/30.
 - (c) Electrical conductors located within a building that supply –
 - (i) A substation located within the building which supplies a main switchboard covered by (b); or
 - (ii) A main switchboard covered by (b),
- Must –
- (iii) Have a classification in accordance with AS/NZS 3013 of not less than –
 - (A) If located in a position that could be straight to damage by motor vehicles – WS53W; or
 - (B) Otherwise – WS52W; or
 - (iv) Be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120



Comments: Confirmation is to be provided for the respective fire ratings of the enclosing construction to these rooms are to be shown on the floor plans on Basement Level B1.

12. Clause C2.14 – Public Corridors in Class 2 & 3 Buildings

In a Class 2 or 3 building a public corridor, if more than 40m in length, must be divided at intervals of not more than 40m with smoke-proof walls complying with Clause 2 of Specification C2.5.

Comments: The Class 3 residential corridors on Levels 4-13 are required to be divided at intervals not exceeding 40m with smoke doors. It is noted that smoke doors are proposed within the hotel corridors to achieve compliance with the requirements of this clause.

PART C3: PROTECTION OF OPENINGS

13. Clause C3.2 – Protection of Openings in External Walls

Openings in external walls that are required to have an FRL, which are to be exposed to a fire-source feature, are required to be protected in accordance with C3.2(a) & C3.2(b).

Openings in an external wall that is required to have an FRL must –

- (a) If the distance between the opening and the fire-source feature to which it is exposed is less than –
 - (i) 3 m from a side or rear boundary of the allotment; or
 - (ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a storey at or near ground level; or
 - (iii) 6 m from another building on the allotment that is not a Class 10, be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally; and
- (b) If the required to be protected under (a), not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.

Comments: The current design is compliant – however, please note comments under Spec. C1.1 regarding the SE corner of the carpark building.

14. Clause C3.5 – Doorways in Fire Walls

Openings in fire walls, that are not part of a horizontal exit, must be protected in accordance with one of the methods set out in this clause.

Fire shutters installed to openings in fire walls must be self-closing or automatic in accordance with the requirements set out in this clause.

Comments: On Levels B1 & B2 in the Club/Hotel Building, the openings in the fire walls identified under C2.8 above are required to be protected with fire doors that achieve a corresponding fire rating to the walls in which they are located.

15. Clause C3.7 – Protection of Doorways in Horizontal Exits

Horizontal exits must be protected by a single fire door unless the subject building is a Class 7 or 8. The doors are to have an FRL as required by Specification C1.1 for the wall.

The doors must be self-closing or automatic-closing.

Comments: Applicable to Horizontal Exit in the fire wall on Basement Level B1 adjacent to the Club Security Control Room.

16. Clause C3.8 – Openings in Fire-isolated Exits

Specifies that the doorways that open into fire-isolated exits must be protected by -/60/30 fire doors that are self-closing or automatic. This clause also details the deemed-to-satisfy methods of activation. This does not apply to doors opening to a road or open space.



A window in the external walls of fire-isolated exits must be protected in accordance with C3.4 if it is within 6m of and exposed to a window or other opening in a wall of the same building other than in the same fire-isolated enclosure.

Comments: All of the egress doors into the fire isolated exit stairs on all levels of the Club/Hotel Building and the Carpark Building are to be provided with AS 1905.1-2005 compliant -/60/30 FRL fire doors.

17. Clause C3.9 – Service Penetrations in Fire-isolated Exits

Fire isolated exits must not be penetrated by any services other than electrical wiring as permitted by D2.7(e), ducting associated with a pressurisation system or water supply pipes for fire services.

Comments: Architect/Services Consultants to note and ensure compliance with regards to restriction of services penetrating the fire isolated stairs and passageway.

18. Clause C3.10 – Openings in Fire-isolated Lift Shafts

If lift shafts are required to be fire-isolated an entrance doorway must be protected by -/60/- fire doors and the lift indicator panels must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35,000mm²

Comments: Certification from the lift consultant to confirm compliance is to be provided with the Construction Certificate application.

19. Clause C3.11 – Bounding Construction: Class 2, 3 & 4 Buildings

Protection is required to the bounding walls of sole-occupancy units or public corridors in Class 2 & 3 buildings and Class 4 portions of buildings of Types A, B & C Construction. Namely:

- + Doorways must be protected if providing access from an SOU to a:
 - o Public corridor;
 - o A room not within an SOU; or
 - o The landing of an internal non-fire isolated stairway that serves a required exit; or
 - o Another SOU
- + A doorway must be protected if it provides access from a room not within an SOU to a public corridor or the like; or to the landing on a non-fire isolated stairway that serves as a required exit.
- + Protection of the doorway must be -/60/30 self-closing fire door in Type A Construction, and a self-closing tight fitting solid core door in Type B or Type C Construction.

Comments: This clause applies to every sole occupancy door and any other room that opens directly onto the public corridors including garbage rooms and plant room areas on the Class 3 Hotel on Levels 4-13. Compliance is to be demonstrated with the Construction Certificate documentation.

20. Clause C3.12 – Openings in Floors & Ceilings for Services

This clause applies to the floors and ceilings in buildings of Types A, B & C Construction and sets out the methods required to limit the spread of fire through openings in these building elements, required to resist the spread of fire.

Comments: Certification will be required at Occupation Certificate application stage.

21. Clause C3.13 – Openings in Shafts

This clause specifies that in buildings of Type A Construction, openings in shafts must be protected (generally with 1 hour fire rated shafts and doors).

Comments: Compliance is to be demonstrated with the Construction Certificate documentation.



22. Clause C3.15 - Openings for Service Installations

The clause details the requirements for protection of service openings in building elements that have an FRL, to prevent the spread of fire. C3.15 only applies only to an element required to have an FRL with respect to integrity or insulation.

Specification C3.15 prescribes materials and methods of installation for services that penetrate walls, floors and ceilings required to have an FRL. Where the mechanical ventilation system penetrates floors or walls that require an FRL the installation is to comply with AS/NZS 1668.1.

Comments: Compliance is to be demonstrated with the Construction Certificate documentation.

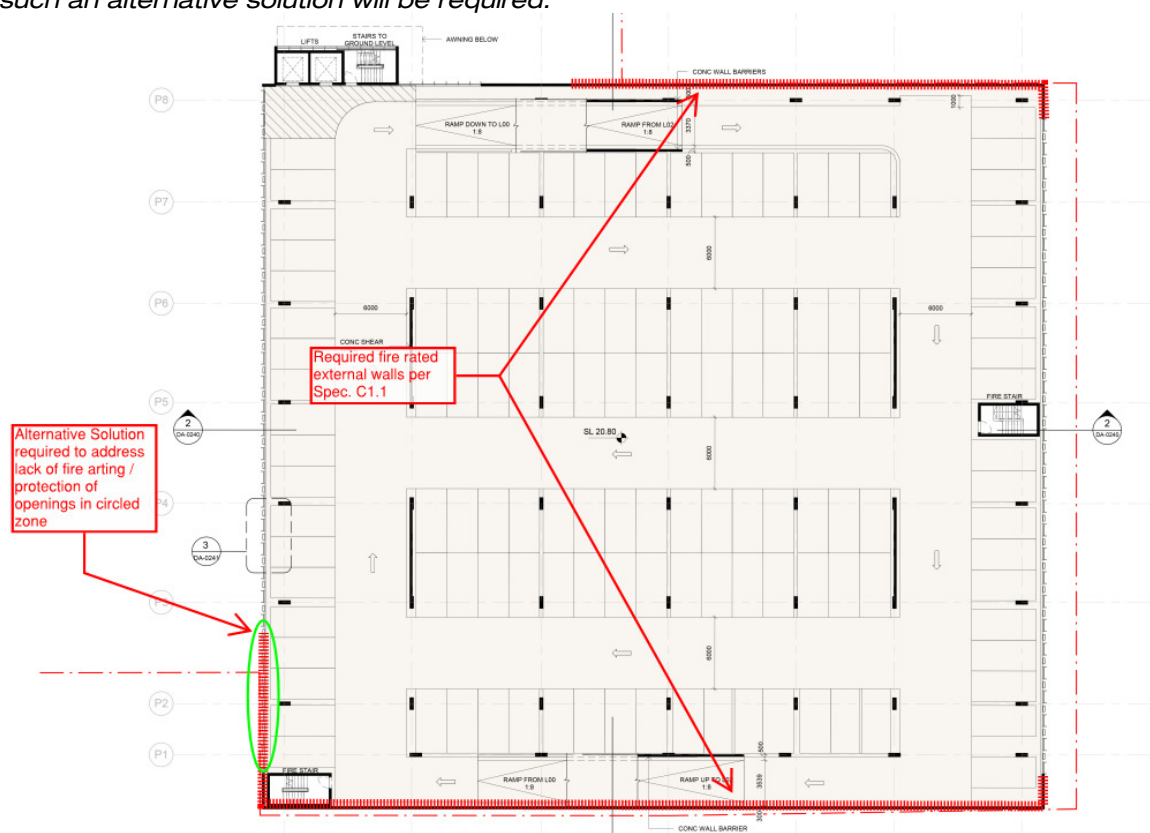
SPECIFICATIONS.

23. Specification C1.1 - Fire Resisting Construction

The new building works are required to comply with the requirements detailed under Table 3 of Specification C1.1 for Type A Construction. (See Appendix 1)

Comments: Compliance is readily achievable for the requirements of Type A construction. As indicated above consultation with the Fire Engineer may be carried out to determine if an alternative solution may be implemented for a reduction in the applicable FRLs from Table 3 of Spec. C1.1 for the lower levels of the Club/Hotel Building.

In addition, the proposed Carpark Building is located directly on the side allotment boundaries on the eastern and western facades and as such will be required to be protected with full fire rated external walls per Table 3 of Spec. C1.1 up to the roof slab level – FRL of 120/120/120 per the mark-up below. It is noted that the boundary returns along Broad Street in the SE corner of the building and this area will not achieve compliance with Spec. C1.1 and/or C3.2 and as such an alternative solution will be required.



Carpark Building –Fire Rated Walls to side boundaries.



24. Specification C1.10 – Fire Hazard Properties

This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in Class 2 to 9 buildings as set out in the Tables.

Comments: Design team to note. Materials test data sheets will need to be provided to allow for further assessment to ensure compliance with above including any proposed aluminium composite panels in the external wall systems that form part of the wall system or are an attachment to the external wall system. Upon receipt we will confirm extent of compliance with BCA and whether a fire engineered Alternative Solution will be required.

SECTION D – ACCESS & EGRESS

PART D1 PROVISION FOR ESCAPE

25. Clause D1.2 – Number of Exits Required

This clause requires the provision of sufficient exits to enable safe egress in case of an emergency. D1.2 provides that all buildings must have at least one exit from each storey and sets out circumstances in which more than one exit may be required (particularly in relation to Class 9 buildings).

Note: Not less than 2 exits must be provided from each storey if the building has an effective height of more than 25m.

Note: Not less than 2 exits must be provided from any storey that involves a vertical rise within the building of more than 1.5m unless the floor area of the storey is not more than 50m² and the distance of travel from any point on the floor to a single exit is not more than 20m.

Comments: As the Club / Hotel building has an effective height exceeding 25m a minimum of two (2) exits are required to be provided from all parts of the building. The only area of concern in this regard is the Security Office area on Basement Level 1 and the Plant Room areas on the roof area on Level 2. In this regard, access to at least two of the available exit stairs on these storeys must be provided. Proposed exits in the Carpark building comply with this requirement also.

26. Clause D1.3 – When Fire-isolated Stairways & Ramps are Required

This clause indicates when fire isolated stairways and ramps are required to enable safe egress from a building in the case of a fire, setting out the limits to which non-fire isolated exits can be used in Class 2, 3, 5, 6, 7, 8 and 9 buildings. Particular exceptions apply to Class 9a patient care and also class 9c aged care buildings.

Class 3– an exit stair must be fire isolated when it connects or passes by more than 3 consecutive stories. An extra storey of any classification can be included if it is only for the accommodation of motor vehicles, etc; the building has a sprinkler system throughout; or if the stair is not providing access from or egress to the additional storey, and is separated by construction achieving an FRL of 60/60/60, and is smoke proof.

Class 7a/7b/9b – every stairway must be fire isolated if it connects more than 2 consecutive storeys. Concessions apply to inclusion of an additional storey, or sprinklers, as per the above.

Comments: The exit stairs from both buildings are required to be fire isolated as they connect more than 3 levels – the current design complies with this requirement.

27. Clause D1.4 – Exit Travel Distances

This clause specifies the permitted travel distances allowable from Class 2 to Class 9 buildings, specifying the maximum distances to be taken into account for the various uses in each Class of building.

The following applies:

- + In a Class 2 or 3 building
The entrance of any SOU must be not more than:



- 6m from an exit or from a point which travel in 2 different directions to 2 exits is available; or
 - 20m from a single exit serving the storey at the level of egress to a road or open space.
 - No point on the floor of a room which is not within a SOU must be more than 20m to an exit, or a point from which travel in different directions to 2 exits is available.
- + In a Class 5, 6 and 7a building:
- No point on the floor must be more than 20m to 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 40m;
 - For the Class 5 and 6, 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.

Comments: Exit Travel distances do not comply within the building. The following areas have been identified and will need to be addressed by the Fire Safety Engineer as an Alternative Solution addressing Performance Requirement DP4 & EP2.2.

Club / Hotel Building

Basement B1 & B2

- + 44m to the nearest exit from the carpark areas.
- + 42m from a number of the storage areas at the rear of the Loading Dock on B2
- + 45m to an exit from a number of the plant areas on B1.
- + Approx. 25m to a point of choice to alternative exits from the Secure Loading Dock on B1.
- + Approx. 40m to a point of choice to alternative exits from the rear of the main Club electrical switchroom on B1. (Note: design change maybe required).
- + Approx. 40m to a point of choice to alternative exits from the rear of the BOH area between Grids H7-H9/HA-HB (Note: design change maybe required).

Ground Level

- + 45m to the nearest exit from the Café and Bar area in the Central areas of the storey.
- + Approx. 23m to a point of choice to alternative exits from the rear of the Plantroom adjacent to the Bar Terrace (Grids CL-CM/C11).

Level 1

- + Approx. 30m to a point of choice to alternative exits from the rear of the three (3) F&B tenancies in the SE zone of the floor.
- + Approx. 22m to a point of choice to alternative exits and 52m to the nearest exit from the toilets at the rear of the Cocktail Lounge.
- + 43m to the nearest exit from the Functional Kitchen adjacent to the large Conference /Function Rooms.

Level 4-13

- + 10m from the western end and 11m from the eastern end SOU entry doors to a point of choice to alternative exits.

Carpark Building (All Levels)

- + Approx. 45m to the nearest exit

28. Clause D1.5 – Distances Between Alternative Exits

This clause specifies the minimum and maximum permitted distances between alternative exits. Class 5, 7a and 9b and 9c allows a maximum 60m between alternative exits when measured back through the designated point of choice (and to be no closer than 9m apart, and not converge so as to be less than 6m apart).

Exits required as alternative exits 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



- i. not less than 9m apart; and
- ii. not more than –
 - in a Class 2 or 3 building - 45m apart; or
 - In a Class 9a health-care building, if such required exit serves a patient care area – 45m apart; or
 - In all other cases, i.e. the non-patient care areas – 60m apart.

- (b) Located so that the alternative paths of travel do not converge such that they become less than 6m apart.

Comments: The travel distances between alternative exits within the building also exceeds the maximum allowable travel distance of 60m on the Basement and Club levels). In this regard maximum distances between alternative exits of 80m occur with the carpark areas on B1 & B2, 77m between exits on Ground Floor (NW zone) and 73m between exits on Level 1 (through the Cocktail Lounge). In addition, the distances between the alternative exits in the carpark building is approx. 70m on all levels

The distances between alternative exits will need to be addressed by the Fire Safety Engineer as an Alternative Solution addressing Performance Requirement DP4 & EP2.2.

29. Clause D1.6 – Dimensions of Exits

This clause specifies the minimum dimensions such as height and width of paths of travel from Class 2 to 9 buildings. It also specifies the minimum dimensions of doorways from the various compartments and the width of exit doors from buildings depending on the uses and functions carried out within them.

Comments: Exit corridors and stairs and other paths of travel are to be a minimum 1m in width and 2m in height clear of any obstructions. The unobstructed height of any doorway may be reduced to not less than 1980mm and the width may be reduced by 250mm from the required exit dimensions listed below. In this regard, we note that the width of the doorways into the wider fire stairs (2m+) on Ground Floor and Level 1 need to be reviewed to ensure that they are no less than 250mm less than the width of the stairway, eg. clear door width of 1750mm required into a 2m wide exit stairway.

The population numbers have been determined in accordance with D1.13 (see below) in consultation with Dooleys and Bouygues Construction Australia, and as a result the following minimum exit widths are required from each floor as follows:

- + Basement Level B1 = 3.0m (Proposed Design Complies)
- + Basement Level B2 = 2.0m (Proposed Design Complies)
- + Ground Floor = 12.0m (Proposed Design Complies)
- + Level 1 = 20.5m (Proposed Design does not Comply – alternative solution required)
- + Level 2 = 3.0m (Proposed Design Complies)
- + Level 3 = 1.0m (Proposed Design Complies)
- + Levels 4-13 = 1.0m per floor (Proposed Design Complies)

Compliance on Level 1 will be required to be addressed via a performance solution from the Fire Safety Engineer justifying the aggregate egress widths will accommodate the population numbers.

In addition to the above the population for the carpark building have been calculated per D1.13 (see below) and as a result it is considered that the minimum dimension of exits provided on each floor achieves compliance with D1.6.

30. Clause D1.7 – Travel via Fire Isolated Exits

Sets out the requirements for safe discharge from various compartments and areas within a building, into a fire isolated stairway or passageway or ramp.



Note: a ramp for changes of level in a fire isolated passageway is required in a Class 9 building.

Where a path of travel from the point of discharge of a fire isolated exit necessitates passing within 6m 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 –

- + an FRL of not less than 60/60/60; and
- + Any openings protected internally in accordance with BCA Clause C3.4,
- + For a distance of 3m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.

Comments: Discharge from the fire isolated stairs FS01, FS08, & FS09 will necessitate in passing by the external walls of the building and as such Clause D1.7(c) applies. The external walls are required to achieve an FRL of 60/60/60 with any openings being protected internally in accordance with Clause C3.4.

31. Clause D1.9 – Travel by Non-fire-isolated Stairways and Ramps

Sub-clauses (a) to (f) set out the prescribed travel distances to be provided in required exits of Class 2 to 9 buildings and Class 4 parts of buildings. The sub-clauses set out the maximum distances to be taken into account for the various uses in each Class of building.

A non-fire isolated stairway or 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 available. This clause sets out the prescribed travel distances to be provided in required exits of Class 2 to 9 buildings and Class 4 parts of buildings, and also maximum total distances to be taken into account for the various uses in each Class of building.

Class 2 building – maximum total distance travelled in a Type A Construction building is 60m. maximum distance to a door leading to open space from the stair is 15m (or 30m to one of 2 such doorways if travel to each of them from the stair or ramp is in opposite directions).

Comments: The proposed circular entry stair to Level 1 from the Ground Floor main lobby is proposed to be utilised as a non-fire isolated exit and is considered to be compliant with the provisions of D1.9.

32. Clause D1.10 – Discharge From Exits

This clause requires that an exit must not be blocked at the point of discharge. Barriers such as bollards must be installed to prevent vehicles from blocking the discharge from exits.

This clause also provides the methods of construction, location and separation, at exit discharge points for all building Classes.

Comments: The pathways from exit discharges points around the site to the public road are to be detailed to comply with the requirements of this clause on the Construction Certificate plans. Noting where a change in level is present, compliant stairways or ramps not steeper than 1:8 are required. In addition, consideration to be given to

33. Clause D1.13 – Number of Persons Accommodated

Clause D1.13 and Table D1.13 are used to calculate the anticipated number of people in particular types of buildings so that minimum exit widths and the required number of sanitary and other facilities can be calculated. This clause and table are not to be used for non-BCA purposes.

Comments: The population numbers within each level have been calculated as follows: based upon consultation with Dooleys and Bouygues Construction Australia:

- + Basement Level B1 = 280 persons
- + Basement Level B2 = 169 persons
- + Ground Floor = 1365 persons
- + Level 1 = 2409 persons



- + Level 2 = 285 persons
- + Level 3 = 74 persons
- + Levels 4-13 = 82 persons per floor

In addition, the population of the carpark building has been calculated utilising the floor area rates per Table D1.13:

- + All Levels – 130 persons per floor

34. Clause D1.17 – Access to Lift Pits

This clause provides the requirements for access to lift pits not more than 3m deep and the requirements of construction of access for lift pits that are more than 3m deep. The requirement for signage to lift pits is also set out.

Comments: Lift Contractor to note. Details are to be provided with the Construction Certificate documentation.

PART D2 CONSTRUCTION OF EXITS

35. Clause D2.2 – Fire-isolated Stairways & Ramps

A stairway or ramp, including landings that are required to be within a fire-resisting shaft must be constructed of non-combustible materials to protect the structural integrity of the shaft.

Comments: Certification will be required at the Construction Certificate application stage.

36. Clause D2.4 – Separation of Rising & Descending Stair Flights

If a stairway serving as an exit is required to be fire-isolated there must be no direct connection between the rising and descending flights of stairs at the level from which egress is obtained. This clause also prescribes the level of construction required.

Comments: Compliance with the requirements of this clause have been achieved in this instance subject to confirmation of the provision of non-combustible smoke sealed construction between the rising and descending stair flights at Ground Floor and B1 levels.

37. Clause D2.7 – Installations in Exits & Paths of Travel

This clause restricts the installation of certain services in fire-isolated exits, non-fire-isolated exits and certain paths of travel to exits. It prescribes which services shall not be installed as well as the circumstances in which certain services may be installed in fire-isolated and non-fire-isolated exits.

If installed in a path of travel to an exit, electrical distribution boards, communication cupboards and the like containing motors, etc are to be enclosed with non-combustible construction, and doors are to be provided with smoke seals to the perimeter.

Comments: Architect to note. Details are to be provided with the Construction Certificate documentation.

38. Clause D2.10 – Pedestrian Ramps

A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the dimensions comply with the requirements for a fire-isolated stairway. The ramp must also comply with the access requirements of D3 and AS1428.1, not have a gradient steeper than 1:8 and have a non-slip finish.

Comments: Details of slip resistance for the ramp finish to be provided with the Occupation Certificate documentation.

39. Clause D2.13 – Goings & Risers

This clause sets out the detailed requirements for the construction and geometry of the goings and risers in required stairways. These details are set out in sub-clauses (a) to (c) and Table D2.13 Riser and Going Dimensions.



Comments: All stairs are to have solid risers, and are to have contrasting nosings, slipresistant surfaces throughout in accordance with clause 11 of AS2419.1-2009. (See diagram in Part D3 below). Refer to the slip resistance requirements for stairs below under Clause D2.14.

Riser and Going Dimensions (mm)			
	Riser (R)	Going (G)	Quantity (2R + G)
Maximum	190	355	700
Minimum	115	250	550

40. Clause D2.14 – Landings

The dimensions and gradients of landings in stairways are set out in this clause; the configuration will depend on the proposed use of a building.

Landing surfaces must be slip resistant surfaces OR slip resistant nosing not less than listed in Table D2.14 when tested in accordance with AS4586.

Table D2.14 SLIP-RESISTANCE CLASSIFICATION

Application	Surface conditions	
	Dry	Wet
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 landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

Comments: Details to be confirmed with the Occupation Certificate documentation.

41. Clause D2.15 – 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 patient care areas in a class 9a health-care building, the door sill is not more than 25mm above the finished floor level to which the doorway opens: or
- (b) In a Class 9c aged care building, a ramp is provided with a maximum gradient of 1;8 for a maximum height of 25mm over the threshold.

Comments: There are no steps or ramps proposed within the door thresholds.

Note: this provision relates primarily to door openings from the exit stairs, given the requirements for accessibility throughout other areas of the building.

42. Clause D2.16 – Balustrades or Other Barriers

This clause details where balustrades are required to be provided and sets out in specific detail the construction requirements for different building uses.

This clause details where balustrades are required to be provided and sets out in specific detail the construction requirements. Typically the following will apply to this class of building:

- + Balustrades are required where the fall to the level below is more than 1m in height. The minimum height of a balustrade is 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp.
- + For a fall of more than 4m to the surface level below, a window sill must be a minimum of 865mm in height above the height of the floor surface.



- + Where the floor is more than 4m above the surface beneath the balustrade any horizontal or near horizontal members between 150mm and 760mm above the floor must not could facilitate climbing.
- + Balustrades must be constructed so as to not permit a sphere of 125mm diameter to pass through. The exception to this is within fire isolated exits within the building, or within a class 7 or 8 building, where the rails can be positioned a maximum of 460mm apart, so long as a bottom rail is located so a sphere of 150mm cannot pass through the opening between the nosing of the stair treads and the rail or between the floor of the landing, balcony or the like.

Comments: Details of the proposed balustrades are to be provided with the application for the Construction Certificate for assessment detailing the above. Note: If the proposed fire stairs in either buildings are proposed to be utilised as circulation stairs – the balustrade concessions for fire stairs detailed in the fourth dot point above will no longer apply to those stairs.

43. Clause D2.17 – Handrails

This Clause sets out the requirements regarding the location, spacing and extent of handrails required to be installed in buildings.

Comments: Details of the proposed handrails are to be provided for assessment with the application for the Construction Certificate. It is noted that no stairs are proposed within the SOU's in the Class 3 portion of the building. Each fire isolated stair is required to be provided with at least 1 handrail that complies with Clause 12 of AS 1428.1-2009; that is the stair is required to be together with the general requirements for handrails the inside handrail is required to be continuous. See also parts of this report relating to Part D3 for the additional requirements for handrails. (See Part D3 below)

44. Clause D2.20 – Swinging Doors

A swinging door in a required exit or forming part of a required exit must swing in the direction of egress and must not otherwise impede egress. In addition, the door must not encroach at any part of its swing by more than 500mm on the required width of the exit (with the exception of airlocks and sanitary compartments, and with the exception of buildings or building parts that are less than 200m²).

Comments: Compliance with the requirements of this clause has been achieved in this instance, with the exception of the main club and hotel entry lobby doors that are required to swing outwards in the direction of egress.

45. Clause D2.21 – Operation of Latch

A door in a required exit or forming part of a required exit and in a 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 single downward action or pushing action on a single device which is located between 900mm & 1100mm from the floor. This clause prohibits the use of devices such as deadlocks and knobs (rather, lever latches are required). D2.21 also sets out exceptions in relation to buildings where special security arrangements are required in relation to the uses carried out.

Where fitted with a fail-safe device which automatically unlocks the door upon the activation of a sprinkler system or detection system, the above need not apply.

Comments: Architect to note. Particular attention is drawn to the need for panic bar type door hardware to the Class 9b components of the building where the room/area population exceeds 100 persons – which applies throughout Ground Floor, Level 1 and Level 2.

46. Clause D2.23 – Signs on Doors

This clause requires the use of signs to alert persons that the operation of certain doors, that are required for evacuation in an emergency, must not be impaired and must be installed where they can be readily seen.

Sub-clauses (a) & (b) provide the requirements for the installation of such signs, the detail contained in them.



Doors of a fire-isolated exit must not be locked from the inside in a Class 9a health-care building, a Class 9c aged care building and in a fire-isolated exit serving a storey above 25m effective height, throughout the exit.

This clause details the exceptions to the above requirements if the doors are fitted with an automatic failsafe device or where sub-clauses (i) & (ii) apply

Comments: Certification will be required at Occupation Certificate application stage.

Any new self-closing fire and/or smoke doors leading into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:



Any new automatic closing fire and/or smoke doors which are held on hold open devices that leads into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:



In addition to the above, the doors which provide access to the fire isolated exits and also the Horizontal Exits must have signage provided adjacent to the entry doorway which states the following (ref Clause 183 of EP&A Reg 2000):



47. Clause D2.24 – Protection of Openable Window

This clause relates to the protection of openable windows in a class 9b early childhood centre, or openable windows in a bedroom in a class 2 or 3 building or a class 4 part of a building, where the floor level is more than 2m above the surface level beneath. The intent of this clause is to limit the risk of a person (especially a young child) falling through an openable window, however it does not apply to such a window where the lowest level of its window opening is less than 1.7m above the floor. Details for protection include the following:

- + Openable portion of the window must have a device to restrict the window opening; or
- + Be fitted with a screen with secure fittings;
- + Not permit a sphere of 125mm to pass through;
- + Resist outward horizontal action of 250N;
- + Have a child resistant release mechanism if the screen or device is able to be removed, unlocked or overridden.

In addition to the above, and for floors that are more than 4m above the surface level below, a barrier with a height not less than 865mm above the floor is required for all openable windows. The barrier must permit a sphere of 125mm to pass through, and must not have any horizontal or near horizontal elements between 150mm and 760mm above the floor that facilitate climbing.

Comments: The above requirements apply to the Class 3 component of the building where openable windows are proposed.



PART D3 ACCESS FOR PEOPLE WITH A DISABILITY INCORPORATING THE DDA ACCESS TO PREMISES – BUILDINGS STANDARDS 2010

48. Clause D3.1 – General Building Access Requirements.

The extent of access required depends on the classification of the building. Buildings and parts of buildings must be accessible as set out in Table D3.1 unless exempted by Clause D3.4.

Comments: Compliant accessibility is required throughout all parts the proposed buildings (except those areas exempted under D3.4 - see notes below) or that are not required to be accessible in the Class 3 SOU and some parts of the Class 7a portions of the building. In this regard, we note the following:

- + *Compliant Access is required to the accessible parking space and the adjoining lifts as well and throughout the staff accessible areas on Basement Levels B1 and B2 and in the new carpark building.*
- + *Compliant Access is required throughout all parts (excluding those exempted under D3.4 below) of the Ground Floor, Level 1, 2, 3 & 4 Club and Hotel areas.*
- + *Compliant Access is required within all parts of the common corridors of the Class 3 areas on Levels 4-11.*
- + *A minimum of ten (10) accessible compliant SOU's are to be provided in the Class 3 Hotel across Levels 4-13.*

Note: Compliance with the above is readily achievable.

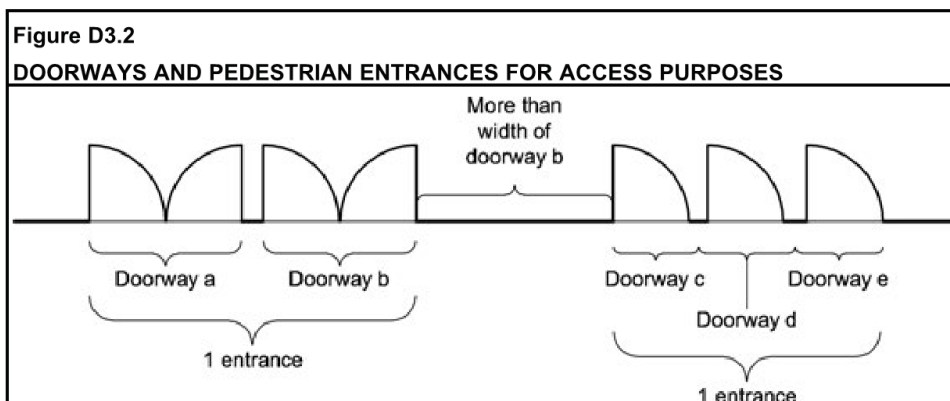
49. Clause D3.2 – General Building Access Requirements for People with Disabilities

This part requires accessways to be provided to buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link.

Accessways are to be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link.

Access must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances (including the principal pedestrian entry). In addition, the non-accessible entrance must not be greater than 50m from an accessible entrance.

It is also noted that where multiple door leaves are provided at the main entry to a building at least one of those doors levels must be compliant with AS 1428.1 per Figure D3.2.



Note: The minimum width of an accessible doorway must have a clear opening width of not less than 850mm in accordance with AS1428.1-2009.

Comments: AS 1428.1-2009 compliant access is required to be provided to the main entry lobby doors of both the Club and the Hotel Lobby from the adjoining external drop off area,



from the Church St footpath, and from the other entries of the adjoining buildings on the site. IN tis regard compliance is readily achievable – details of the relevant requirements of AS 1428.1-2009 are listed below under D3.3. Note: There are no non-accessible entries to the building proposed.

50. Clause D3.3 – Parts of the Building to be Accessible

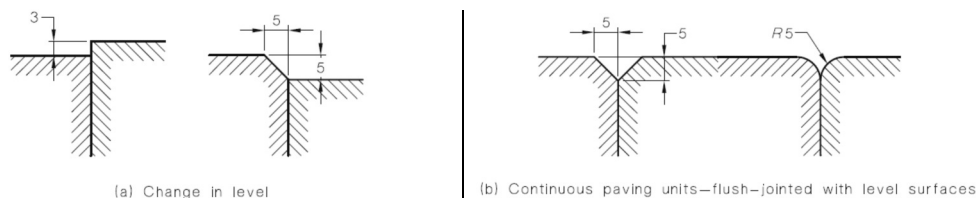
This part specifies the requirements for accessways within buildings which must be accessible.

Comments: The following is a summary of some of the key matters which need to be considered to ensure compliance with the requirements of this part and AS 1428.1-2009 have been achieved:

- + Access for persons with disabilities must be provided, at a minimum, to and within all areas normally used by the occupants including staff. This includes to and within all common areas of the Class 3 Hotel Levels 4-11.

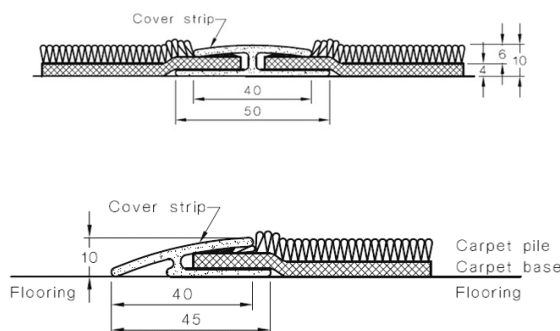
Accessways and Doors

- + The minimum width of an accessible doorway must have a clear opening width of not less than 850mm in accordance with AS1428.1.
- + All doorways on a continuous path of travel (i.e. throughout all parts of the Club and Hotel areas on Ground to Level 3 and the common areas of Levels 4-11 and the required accessible SOU's) shall have a minimum luminance contrast of 30% provided between: door leaf and door jamb; or door leaf and adjacent wall; or architrave and wall; or door leaf and architrave; or door jamb and adjacent wall. The minimum width of the area of luminance contrast shall be 50mm.
- + Internal surfaces are to comply with Section 7 of AS1428.1-2009.
- + Internal tiles or internal vinyls are to comply with AS 4586.
- + All finished floor surfaces are to be trip free, the following details demonstrate the tolerance level for floor finishes:



Source – Section 7.2 of AS1428.1-2009

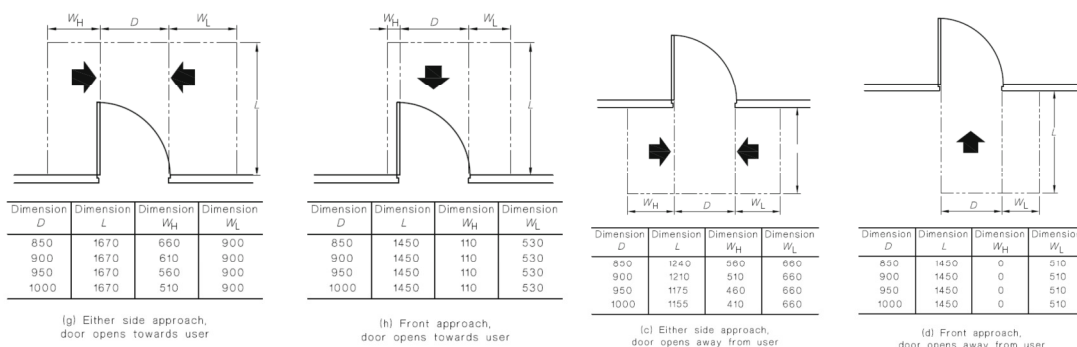
- + Any proposed carpets within the building are to have a pile height or pile thickness not exceeding 11mm and the carpet backing thickness shall not exceed 4mm (total thickness shall not exceed 15mm).



Source – Section 7.4.1 of AS1428.1-2009

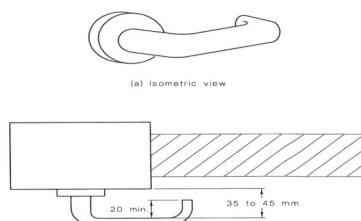


- + Circulation space to the new doorways that are required to be accessible are to comply with Section 13 of AS1428.1-2009, examples of which are as follows:



Circulation space requirements at doorways

- + Turning Spaces and Passing Spaces in Common Corridors are required to be provided on each level in accordance with Clauses 6.4 & 6.5 of AS 1428.1-2009.
- + All frameless glass panels or fully glazed doors on an accessway are to be clearly marking in accordance with AS 1428.1. In this instance, all frameless glass panel or fully glazed doors, including glazing capable of being mistaken for a doorway or opening, shall be marked with a full width solid non transparent contrast line not less than 75mm wide is required to be located between 900mm and 1000mm above floor level.
- + All door handles and related hardware to new doorways required to be accessible shall be of a type that allows the door to be unlocked and opened with one hand in accordance with AS1428.1-2009:



Source – Section 13.5.2 of AS1428.1-2009

- + All switches and controls, other than general purpose outlets, shall be located not less than 900 mm nor more than 1,100 mm above the FFL and not less than 500 mm from internal corners except where on the architrave on the latch side as shown in Figure 37:

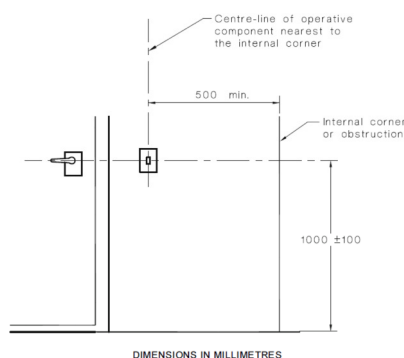


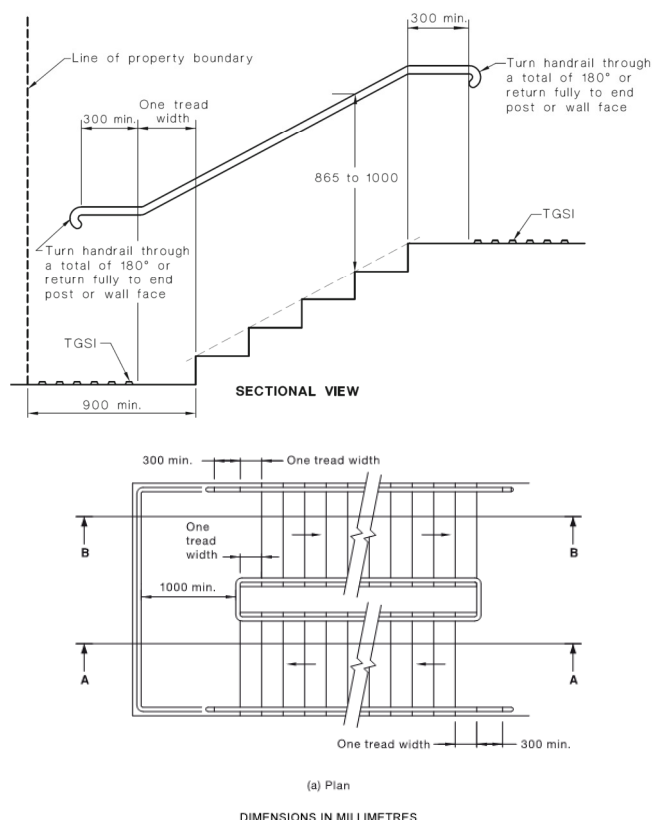
FIGURE 37 HEIGHTS FOR SWITCHES AND DOOR HANDLES

Source – Section 14.2 of AS1428.1-2009



Stairways

- + Every stairway must be constructed in accordance with Clause 11 of AS1428.1, except if they are within a fire isolated exit. As such, the stairways must be designed to comply with the accessibility requirements of Clause 11 of AS1428.1-2009 and details will need to be confirmed on the plans for CC. This should be reviewed prior to submission.



Stairway and handrail requirements

- + Stairs shall have opaque risers (i.e. Solid) and Stair nosing's shall comply with the following diagram, which achieve a colour contrast luminance of 30% to the background (tread):

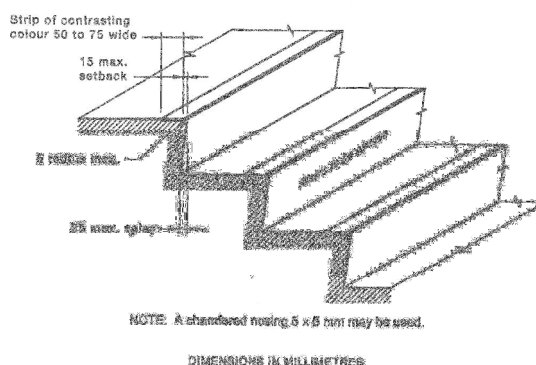
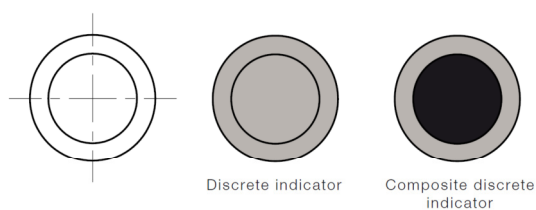


FIGURE 27(A) A TYPICAL STAIR NOSING PROFILE WITH NOSING STRIP

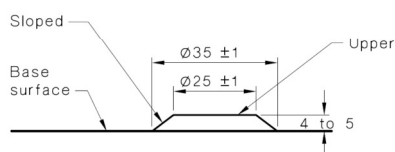
Stairway nosing requirements



- + **Stairways (and 1:14 accessible ramps) are to be served by Tactile Ground Surface Indicators in accordance with AS1428.4.1, except if they are within a fire isolated exit.**



(a) Plans of individual truncated cones

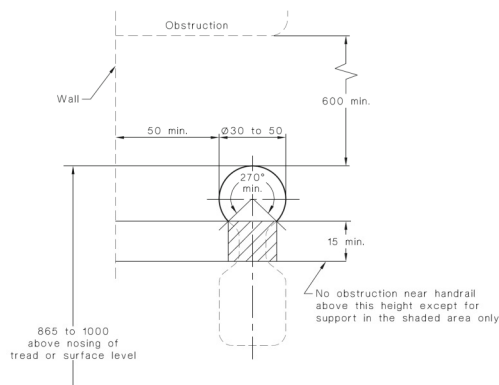
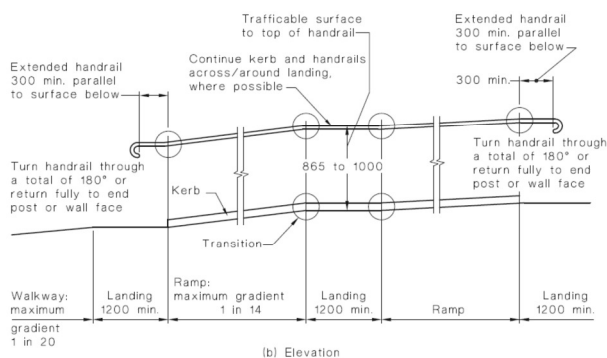


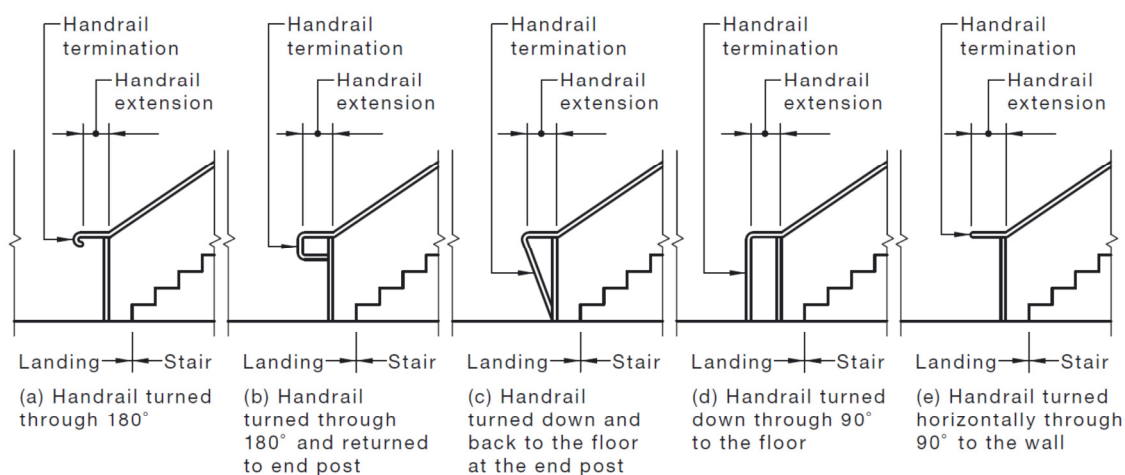
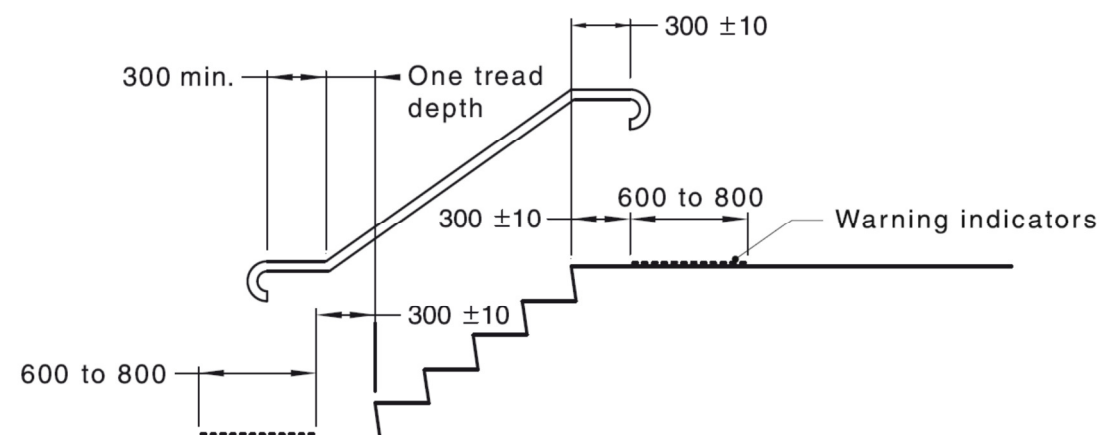
(b) Elevation of individual truncated cone

Source – Section 6.1 of AS1428.4-1992

Handrails

- + **Handrails shall be installed along stairways as follows:**
 - **Shall be continuous through the flight and where practicable, around landings and have no obstruction on or above up to a height of 600mm,**
 - **Installed along both sides of the stairway (giving consideration also to 1m unobstructed width),**
 - **See Clause D2.17 for requirements applicable to handrails in Fire Stairs.**

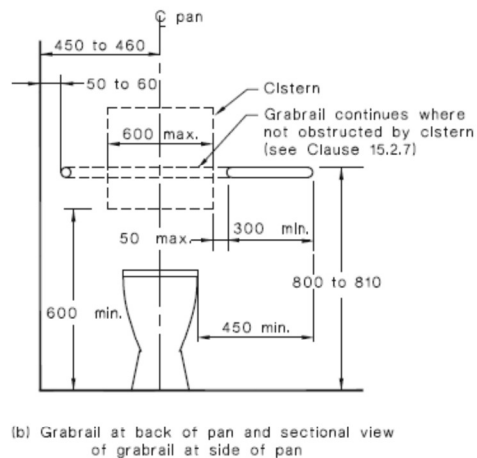
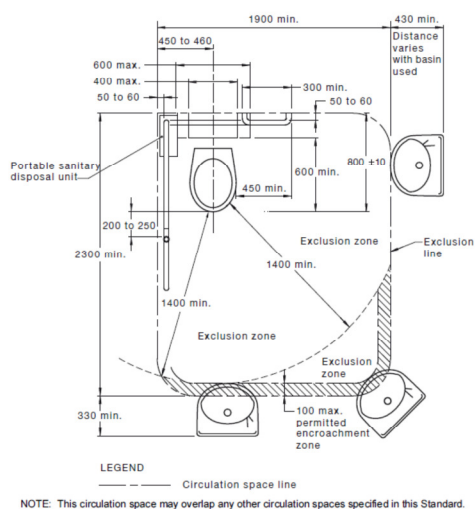




Source – Section 11.1 and 12 of AS1428.1-2009

Accessible & Ambulant Toilets

- + The size and scale (including the fixtures contained therein) of unisex accessible sanitary facility is required to comply with Section 15 of AS1428.1-2009:

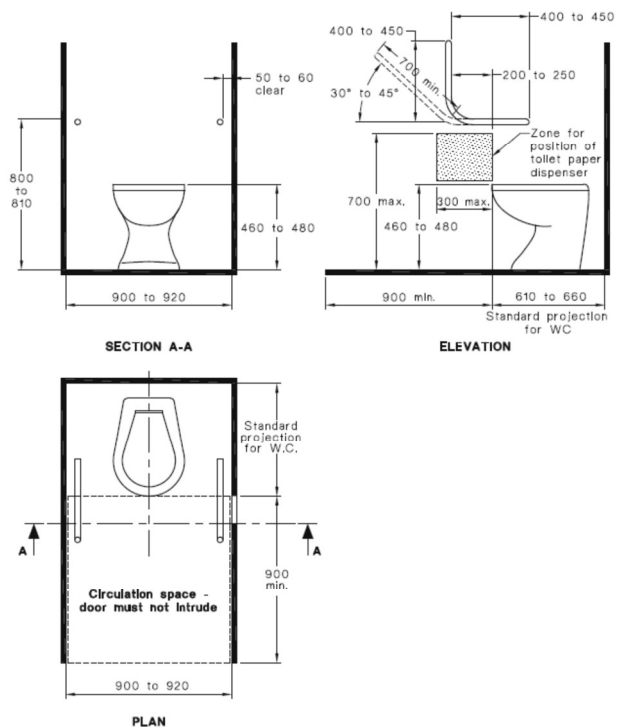


DIMENSIONS IN MILLIMETRES

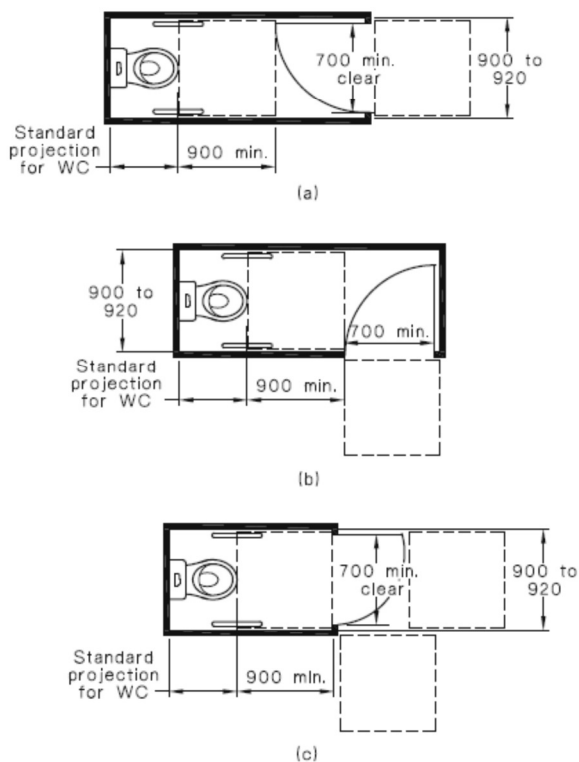
Source – Section 15.2 of AS1428.1-2009



- + The configuration and fixtures contained therein the ambulant sanitary facilities are required to comply with Section 16 of AS1428.1-2009:



Source – Section 15.2.8 of AS1428.1-2009



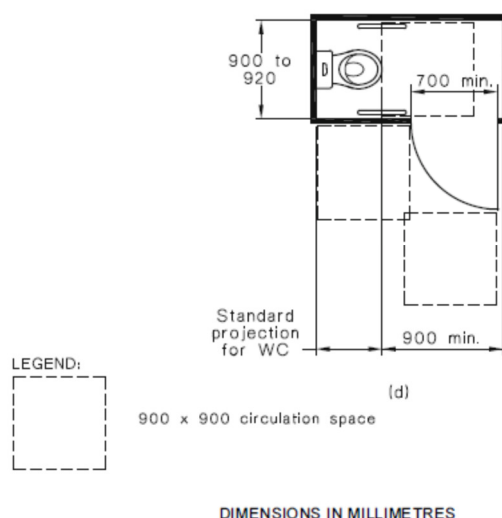
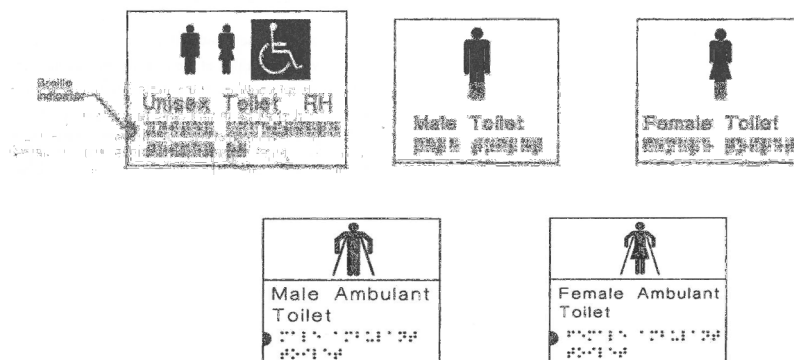


FIGURE 53(B) SANITARY COMPARTMENT FOR PEOPLE WITH AMBULANT DISABILITIES—DOORWAY OPTIONS

Source – Section 15.2.8 of AS1428.1-2009

Signage

- + Signage, including Braille & tactile signage where appropriate, is required to comply with BCA clause D3.6 and Section 8 of AS 1428.1-2009 for sanitary facilities, ambulant facilities and disabled car parking spaces. In addition, the signage to the accessible toilet facilities is to also identify the facility for left and right handed use.



Source: Section 8 of AS1428.1-2009

51. Clause D3.4 – Concessions / Exemptions

This part provides exemptions to the Deemed-to-Satisfy provisions for access by people with a disability. This part provides details on buildings or parts of buildings not required to be accessible under the BCA where providing access would be inappropriate because of the nature of the area or the tasks undertaken.

Comments: It is noted that any concessions to be applied under D3.4 will need to be the subject of an application by Dooleys at the CC Application to the Certifier, however, the most likely areas where D3.4 may be applied are the plantrooms, Loading Dock area and the back-of-house kitchen areas on Ground Floor and Levels 1 & 2.

52. Clause D3.5 – Accessible Carparking

This part provides details of the number of accessible carparking spaces required in a carpark depending on the classification of the building.



Comments: Accessible compliant carparking is required to be provided at the following rates:

- + Class 3 Hotel – by multiplying the total number of carparking spaces by 5% - 6 spaces required.
- + Class 6 & 9b – 1 accessible compliant space per 50 parking spaces provided on site – 15 spaces required.

Note: Design Complies.

53. Clause D3.6 – Identification of Accessible Facilities, Services and Features

Braille and tactile signage must be provided to required accessible sanitary facilities, spaces with hearing augmentation, ambulant sanitary facilities, pedestrian entrances that are not accessible, **and** to each door required by Clause E4.5 to be provided with an exit sign. The latter is to state EXIT and state the level eg. LEVEL 1

Comments: See details referenced under D3.3 above.

54. Clause D3.7 – Hearing Augmentation

This part provides requirements for provision of hearing augmentation in accessible buildings, i.e. to be provided where an in-built amplification system (other than one used for emergencies), is installed:

- + In a room in a Class 9b building;
- + In an auditorium, conference room, meeting room, or room for judiciary purposes.

At any ticket office, teller's booth, reception area or the like where the public is screened from the service provider.

Comments: A Hearing Augmentation System will be required to be installed where an inbuilt amplification system is installed in the Class 9b Club & Hotel areas on Ground Floor, Level 1 and 2.

55. Clause D3.8 – Tactile Indicators

This clause provides for the installation of tactile indicators in buildings required to be accessible and must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway, escalator, passenger conveyor, ramp, overhead obstruction or an accessway meeting a vehicular way, except for areas exempted by D3.4.

Comments: Stairways and ramps serving the building will need to be provided with Tactile Ground Surface Indicators in accordance with AS1428.4 – see details above.

56. Clause D3.12 – Glazing on an Accessway

This part requires the provision of a contrasting strip, chair rail, handrail or transom across all frameless or fully glazed doorways and surrounding glazing capable of being mistaken for an opening.

Comments: Design details to note requirements for full height glazing.

SECTION E – SERVICES AND EQUIPMENT

PART E1 FIRE FIGHTING EQUIPMENT

57. Clause E1.3 - Fire Hydrants

A fire hydrant system must be provided to serve a building having a total floor area greater than 500m² and where a fire brigade is available to attend a building fire, installed in accordance with the provisions of AS2419.

The hydrant booster assembly and any external fire hydrants are required to be located greater than 10 metres from an external wall of the building, or affixed to the external wall and protected by a radiant heat shield that has an FRL of 90/90/90 located 2 metres either side and 3 metres above the outlets.



Any gas meter must be located a minimum of 10 metres from the hydrant booster outlet.

A required fire services pump room is required to be accessible directly from the road or open space, or from a door opening from a fire isolated exit.

Comments: Both the Club/Hotel Building and the new carpark building are required to be served by a hydrant system that is compliant with AS 2419.1-2005. The location of the proposed booster assembly is not in view of the main entry of the Hotel/Club building and will need to be addressed as an alternative solution from the Fire Engineer.

It is understood that it may not be proposed to provide a compliant radiant heat protection to the booster assembly and as such this will also need to be included in the Fire Engineering Report as an Alternative solution addressing Performance Requirement EP1.3 or an exemption sought from FRNSW under Cl. 188 of the EP&A Regulations.

Furthermore, if the new carpark building is proposed to be served by the hydrant system within the Club/Hotel Building this will need to be documented in the FER by the Fire Safety Engineer.

In addition, if the Electrical Utility Authority does not allow the provisions of hydrants within the substations on Basement Level B1 this will also need to be included in the Fire Engineering Report as an Alternative solution addressing Performance Requirement EP1.3.

58. Clause E1.4 – Fire Hose Reels

A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m².

Fire Hose Reels are to be located within 4m of an exit, or located adjacent to an internal hydrant (other than one within a fire isolated exit). Where system coverage is not achieved by the above, additional FHR may be located in paths of travel to an exit.

We note that BCA 2014 does not require the installation of Fire Hose Reels to service the Class 2 or Class 3 parts of the building subject to compliance with the requirements of Clause E1.6 relating to the installation of portable fire extinguishers.

A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m² and for the purposes of this clause, a sole-occupancy unit in a Class 2, 3 building or a Class 4 part is considered to be a fire compartment.

Comments: Both the Club/Hotel Building and the new carpark building are required to be served by a system of fire hose reels. A plan shall be provided with the Construction Certificate documentation together with a design certificate to AS2441-2005 that details the coverage provided by the fire hose reels. Note: Fire Hose Reels are NOT required on the Class 3 Hotel Levels 4-13, but are required on all other Levels of the Club/Hotel building and within the Carpark building.

In addition, if the Electrical Utility Authority does not allow the provisions of hose reels within the substations on Basement Level B1 this will also need to be included in the Fire Engineering Report as an Alternative solution addressing Performance Requirement EP1.1.

59. Clause E1.5 – Sprinklers

A sprinkler system must be installed in a building or part of a building when required by Table E1.5 and comply with Specification E1.5.

Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space.

Table E1.5 sets out which types of building occupancies and Classes which require having sprinkler systems installed in them.

Comments: As the Club/Hotel building has an effective height exceeding 25m the whole building is required to be protected by a sprinkler system complying with Specification E1.5. Sprinkler valves when located within a building are required to be located within a secure room or enclosure that has direct egress from road or open space. The proposed location of the sprinkler alarm valves on Basement Level B1 will require the provision of an alternative solution from the Fire Engineer as the room requires access via a stair from Church Street.



In addition, if the Electrical Utility Authority does not allow the provisions of sprinklers within the substations on Basement Level B1 this will also need to be included in the Fire Engineering Report as an Alternative solution addressing Performance Requirement EP1.4.

Furthermore, as identified above, the new carpark building meets the designation of an open deck carpark and as such is exempt from the requirements for sprinklers. See note above regarding confirmation of 50% ventilation in relation to the open deck designation.

60. Clause E1.6 – Portable Fire Extinguishers

Portable fire extinguishers must be provided as listed in Table E1.6 and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444 and installed throughout the entire building.

Comments: Both the Club/Hotel Building and the new carpark building are required to be served by Portable Fire Extinguishers in accordance with Table E1.6. Note: Portable fire extinguishers provided in the Class 3 hotel levels parts of the building must be –

- i. an ABE type fire extinguisher; and
- ii. a minimum of 2.5kg; and
- iii. distributed outside a sole-occupancy unit –
 - (A) To serve only the storey at which they are located; and
 - (B) So that the travel from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.

61. Clause E1.8 – Fire Control Centres

A fire control centre facility in accordance with Specification E1.8 must be provided for a building having an effective height of more than 25m and in a Class 6, 7, 8 or 9 building with a total floor area of more than 18,000m².

Specification E1.8 describes the construction and content of required fire control centres or rooms.

Comments: As the effective height of the Club/Hotel building exceeds 25m a fire control centre is required to be provided for the site in accordance with Clauses 2 of Spec. E1.8.

It is noted that if the Fire Control Centre is to be located on Basement Level B1 access will necessitate a change in level exceeding 300mm from the road which will in turn need to be included in the Fire Engineering Report as an Alternative Solution addressing Performance Requirement EP1.6.

62. Clause E1.9 – Fire Precautions During Construction

In buildings under construction at least 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 a required exit and if the building has reached an effective height of 12m the required hydrant and hose reel systems must be installed, as set out in (b)(ii) and be operational and any required booster connections must be installed.

Comments: Compliance is readily achievable. Services consultants to note during the design process that a hydrant system is required to be provided to the building during construction.

PART E2 SMOKE HAZARD MANAGEMENT

63. Clause E2.2 – General Requirements

Class 2 to 9 buildings must comply with the provisions of this Clause to remove smoke during a fire, to control the operation of air handling systems and to prevent the spread of smoke between compartments.

Buildings must comply with the provisions of **Table E2.2a**, as applicable to Class 2 to 9 buildings and **Table E2.2b** as applicable to Class 6 and 9b buildings. It deals with the design and construction of air handling systems that are part of a smoke hazard management system and air handling system that are not part of a smoke hazard management system.

The details relating to the installation and operation of the systems are set out in **Specifications E2.2a, E2.2b and E2.2c**.



Comments: A smoke detection and alarm system is required to be provided throughout the Club/Hotel building in accordance with Table E2.2a and Spec. E2.2a. It is to be connected to a building occupant warning system.

As the effective height of the Club/Hotel buildings exceeds 25m the building is required to be provided with a system of pressurisation of the fire isolated exits. Stair pressurisation is only required to be provided where the exits serving storeys >25m in effective height (required to the Class 3 Hotel Tower only).

Zone smoke control to the Class 6, 7b, 8 and 9b parts of the Club/Hotel building is also required to be provided; however this requirement may be considered via a Performance solution from the Fire Engineer as an Alternative Solution to address Performance Requirement EP2.2, given the compartmentation arrangement on the lower levels.

Additionally as the size of the fire compartment to the Class 9b Club part of the building exceeds 2000m² and it is therefore required to be provided with a smoke exhaust system in accordance with Table E2.2b and Specification E2.2b. It is noted that this requirement may also be addressed as an Alternative Solution from the Accredited Fire Safety Engineer.

It is also noted that the mechanical ventilation systems in the Club/Hotel buildings are required to be designed in accordance with AS/NZS 1668.1 incorporating smoke/fire dampers where air handling ducts penetrate any building elements separating fire compartments served, and a system of automatic shutdown on activation of the smoke detection system. Additionally, the basement carpark exhaust system is required to be compliant with AS 1668.2 and Clause 5.5 of AS/NZS 1668.1 and incorporate override controls at the FIP.

Note: There are no smoke hazard management provisions applicable to the new Carpark building, however the requirements of Table E2.2a for carparks may be included in the design having regard to fan blades and non-fire rated cabling.

PART E3 LIFT INSTALLATIONS

64. Clause E3.2 – Stretcher Facility in Lifts

Stretcher facilities, complying with this clause, must be provided in lifts in at least one emergency lift as required by E3.4 or in a storey above an effective height of 12m.

A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.

Comments: The lifts within the Club/Hotel building and the new Carpark Building serves storeys above an effective height of 12m and as such are required to be provided to accommodate a stretcher in accordance with the requirements of the clause above. A design certificate from the lift supplier shall be provided with the documentation submitted with the Construction Certificate application. (Refer to clause E3.4 below regarding the requirements for the emergency lifts)

65. Clause E3.3 – Warning Against use of Lifts in Fire

Warning signs required be provided must be displayed where they can be readily seen and must comply with the details and dimensions of **Figure 3.3**.

Comments: Compliance is readily achievable. Details to be confirmed with the documentation provided with the Construction Certificate application.

66. Clause E3.4 – Emergency Lifts

An emergency lift (complying with AS1735.2 or Appendix A of AS1735.1) must be installed in a building that exceeds 25m in effective height.

The emergency lift must be connected to a standby power supply system where installed; be contained within a fire resisting shaft; and have the following minimum internal dimensions (measured clear of all obstructions including handrails):

- + Depth of car – 2280mm
- + Width of car – 1600mm



- + Floor to ceiling height – 2300mm
- + Door height – 2100mm
- + Door width – 1300mm

Comments: As the effective height of the Club/Hotel building exceeds 25m an emergency lift (with adequate size for stretcher facilities per E3.2 of 600mm wide by 2000mm long by 1400mm high) is required to serve each level of the building.

67. Clause E3.5 – Landings

E3.5(a) The provisions of clause 12.2 – “Access” of AS 1735.2 do not apply.

E3.5(b) The provisions of Clause A3.2 – “Access to landings” of Appendix A of AS 1735.1 do not apply.

E3.5(c) Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Part D.

Comments: Design certification from the lift supplier shall be provided with the documentation submitted with the Construction Certificate application.

68. Clause E3.6 – Passenger Lifts

In an accessible building, every passenger lift must be one of the types identified in **Table E3.6a**, have accessible features in accordance with **Table E3.6b** and not rely on a constant pressure device for its operation if the lift car is fully enclosed.

Comments: The passenger lifts are required to be designed to comply with AS1735.2 and AS1735.12. Design documentation shall be provided with the application for the Construction Certificate.

69. Clause E3.7 – Fire Service Controls

In passenger lifts designed in accordance with AS 1735 Parts 1 and 2, all lift cars serving any storey above an effective height of 12m must be provided with fire service controls.

Comments: Design certification from the lift supplier shall be provided with the documentation submitted with the Construction Certificate application.

70. Clause E3.9 – Fire Service Recall Operations Switch

Each group of lifts must be provided with one fire service control switch (required by Clause E3.7 above) that activates the fire service recall operation. This clause details the switch, the labelling, the key and operation procedures for a fire service recall operation.

Comments: Design certification from the lift supplier shall be provided with the documentation submitted with the Construction Certificate application.

71. Clause E3.10 – Lift Car Fire Service Drive Control Switch

The lift car fire service drive control switch required by E3.7 must be activated from within the lift car. This clause details the switch, the initiation, the labelling and operation for the fire service drive control switch.

Comments: Design certification from the lift supplier shall be provided with the documentation submitted with the Construction Certificate application.

EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS

72. Clause E4.2 – Emergency Lighting Requirements

This clause details when emergency lighting must be installed in Class 2 to 9 buildings. The requirements for buildings and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building

Comments: Design details shall be provided with the documentation provided with the Occupation Certificate application.



73. Clause E4.5 - Exit Signs

An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building. Sub-clauses (a) to (d) set out the situations where exit signs are required to be installed.

Comments: Design details shall be provided with the documentation provided with the Occupation Certificate application.

74. Clause E4.6 - 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.

Comments: Design details shall be provided with the documentation provided with the Occupation Certificate application.

75. Clause E4.8 - Design & Operation of Exit Signs

Every required exit sign must comply with AS/NZS 2293.1 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building.

Comments: Design details shall be provided with the documentation provided with the Occupation Certificate application.

76. Clause E4.9 - Sound Systems & Intercom Systems for Emergency Purposes

This clause sets out the types of buildings requiring the installation of a sound system and intercom system to assist with the emergency evacuation of occupants. This clause specifies that sound and intercom systems must comply with AS 1670.4 and is to be provided within certain Class 3, Class 9a and Class 9b buildings, and also is to be installed in every building with an effective height greater than 25m, or where there is an atrium.

Comments: As the effective height of the building exceeds 25m a sound system and intercom system is required to be provided throughout the whole building and the carpark levels in accordance with AS1670.4. Design certification shall be provided with the Construction Certificate documentation.

SECTION F - HEALTH & AMENITY

PART F1 DAMP AND WEATHERPROOFING.

77. Clause F1.1 - Stormwater drainage

Stormwater drainage must comply with AS/NZ 3500.3.

Comments: Design statements to be provided with the Construction Certificate application.

78. Clause F1.7 - Waterproofing of Wet Areas

This clause requires that wet areas in Class 2 to 9 buildings must be waterproofed. It prescribes the standards to which the work must be carried on the construction of rooms containing urinals and their installation.

Comments: Details to be provided with the application for the Construction Certificate.

79. Clause F1.11 - Provision of Floor Wastes

In a Class 2 or 3 building or Class 4 part of a building, the floor of each bathroom and laundry located above a sole-occupancy unit or public space must be graded to permit drainage to a floor waste.

Comments: Details to be provided with the application for the Construction Certificate.



80. Clause F1.13 – Glazes Assemblies

Glazed assemblies in an external wall must comply with AS2047 requirements for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one piece framing

Comments: Details to be provided with the application for the Construction Certificate.

PART F2 SANITARY AND OTHER FACILITIES

81. Clause F2.1 – Facilities in Residential Buildings

Sanitary and other facilities for Class 2 and 3 buildings and Class 9c aged care buildings and for Class 4 parts of buildings must be provided in accordance with **Table F2.1**. This Table details the facilities required to be provided in residential buildings.

Comments: Current provisions included in the design are compliant with the requirements of this clause.

82. Clause F2.2 – Calculation of Numbers of Occupants & Facilities

This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings. The parameters for the calculation are set out in sub-clauses (a) to (d).

Comments: See comments under Clause D1.13.

83. Clause F2.3 – Facilities in Class 3 to 9 Buildings

This clause provides the requirements for sanitary facilities to be installed in Class 3, 5, 6, 7, 8 and 9 buildings in accordance with Table F2.3.

When accessible sanitary facilities are provided, they account once for each sex.

Comments: The required sanitary facilities for the Class 6 & 9b portions of the Club/Hotel building have been calculated as follows, based upon the population numbers detailed in D1.13 above:

- + Ground Floor – Male: 5 WC's, 13 Urinals, 7 Wash Basins; and Female: 15 WC's, 7 Wash Basins
- + Level 1 – Male: 9 WC's, 21 Urinals, 10 Wash Basins; and Female: 24 WC's, 12 Wash Basins
- + Level 2 – Male: 2 WC's, 3 Urinals, 2 Wash Basins; and Female: 4 WC's, 2 Wash Basins
- + Level 3 – Male: 2 WC's, 2 Urinals, 2 Wash Basins; and Female: 3 WC's, 2 Wash Basins

Note 1: Compliance with the above requirements is readily achievable.

Note 2: As the new Carpark Building is ancillary to the Club/Hotel facility additional sanitary facilities within the carpark building per Table F2.3 are not considered to be required.

84. Clause F2.4 – Accessible Sanitary Facilities

Accessible unisex sanitary compartments must be provided, in accordance with **Table F2.4(a)** and unisex showers must be provided in accordance with **Table F2.4(b)**, in buildings or parts that are required to be accessible. The details for the provision of disabled facilities and the standard, AS 1428.1, are set out in sub-clauses (a) to (i).

Comments: Accessible compliant toilets are required at each bank of toilets where one or more toilets is provided. In addition, to an Accessible unisex sanitary compartment at that bank of toilets, an ambulant sanitary facility is required to be provided for use by male and female persons per AS 1428.1-2009. On the ground floor level and Level 1, where multiple banks of toilets are provided at least 50% of the banks must comply with the above. Note: Compliance with the above requirement is readily achievable. See details of required accessible and ambulant facilities under Part D3 above.



85. Clause F2.5 – Construction of Sanitary Compartments

Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend –

- + from floor level to the ceiling in the case of a unisex facility; or
- + a height of not less than 1.5m above the floor if primary school children are the principal users; or
- + 1.8m above the floor in all other cases.

The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F2.5 between the closet pan within the sanitary compartment and the doorway.

Comments: Architect to note.

PART F3 ROOM HEIGHTS

86. Clause F3.1 Height of Rooms and other spaces

The ceiling heights in Class 2 to 9 buildings must not be less than required in sub-clauses (a) to (f) of this clause.

The ceiling heights are prescribed and should be checked for all classes and parts during assessment or the design process.

The ceiling minimum heights for a Class 2 or 3 building are as follows:

- + Kitchen, laundry or the like – 2.1m;
- + Corridor, passageway or the like – 2.1m
- + Habitable rooms excluding the kitchen – 2.4m.

Comments: Architect to ensure compliance with SEPP 65 as applicable (or outline in the DA submission any shortcomings)

Note: The basement carpark will require careful consideration, particularly with regard to the ceiling height required for accessible spaces, where services may impact on the required clearances and should be given early attention to ensure compliance. Discuss requirements with the access consultant.

Ceiling heights to be reviewed at the Construction Certificate stage with the detailed section drawings.

PART F4 LIGHT AND VENTILATION

87. Clause F4.1 – Provision of natural Light

Natural lighting must be provided in:

- + Class 2 buildings and Class 4 parts of buildings – to all habitable rooms.
- + Class 3 buildings – all bedrooms and dormitories.

Comments: Detailed plans to be reviewed with the Construction Certificate application and certification provided.

88. Clause F4.2 – Methods & Extent of Natural Lighting

Sub-clauses (a), (b) & (c) set out the requirement that natural light must be provided by windows and the size and location of such windows. Natural light can also be provided by the use of rooflights in accordance with the provisions of this Clause.

Note: the Guide to the BCA, as part of the commentary under **F4.2**, contains an example for determining proportional combination of windows and rooflights. **Figure F4.2(1)** in the Guide to the BCA contains an elevation showing method of measuring distance of window from boundary. **Figure F4.2(2)** contains an illustration of window sill in aged care building.



Comments: Detailed plans to be reviewed with the Construction Certificate application and certification is to be provided at Construction Certificate application stage.

Note: Details of the construction of the wintergardens will need to be provided to allow for further assessment in this regard.

89. Clause F4.4 – Artificial Lighting

Artificial lighting is required where it is necessary to minimise the hazard to occupants during an emergency evacuation. Sub-clauses (a), (b) & (c) sets out the places where artificial lighting is always required in all classes of buildings and the standard to which it must be installed.

Comments: Compliance is readily achievable. Design documentation shall be provided with the Construction Certificate application.

90. Clause F4.5 – Ventilation of Rooms

A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F4.6 **or** a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1.

Comments: Detailed review of any window openings to be undertaken with the application for the Construction Certificate. Design documentation shall be provided from the mechanical consultant for all ventilation to the building with the Construction Certificate documentation.

91. Clause F4.6 – Natural Ventilation

Natural ventilation provided in accordance with F4.5(a) must consist of permanent openings, windows, doors or other devices which can be opened in accordance with sub-clauses (a), (b) & (c).

Comments: Detailed review of any window openings to be undertaken with the application for the Construction Certificate. Design documentation shall be provided from the mechanical consultant for all ventilation to the building with the Construction Certificate documentation.

Note: Details of the construction of the wintergardens will need to be provided to allow for further assessment in this regard.

92. Clause F4.8 – Restriction on Position of Water Closets & Urinals

A room containing a water closet pan or urinal must not open directly into a kitchen or pantry, public dining room or restaurant, a dormitory in a Class 3 building, a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand) or a workplace normally occupied by more than 1 person.

Comments: Further assessment of the proposed fit-out of the Club & Hotel levels is required in this regard, however, compliance is readily achievable.

93. Clause F4.9 – Airlocks

If a room containing a closet pan or urinal is prohibited under F4.8 from opening directly into another room then the provisions of sub-clauses (a) & (b) apply relating to the requirements of airlocks and mechanical ventilation standards.

Comments: Compliance is readily achievable.

94. Clause F4.11 – Carparks

Every storey of a carpark except an open-deck carpark must have-

- (a) A system of ventilation complying with AS 1668.2; or
- (b) An adequate system of permanent natural ventilation.

Comments: Details of the mechanical ventilation system and design certificate is to be provided with the application for the Construction Certificate.



95. Clause F4.12 – Kitchen Local Exhaust Ventilation

A commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 in accordance with the provisions of sub-clauses (a) and (b).

Comments: Compliance is readily achievable for the proposed Commercial Kitchens to the Club & Hotel areas within the building.

PART F5 SOUND TRANSMISSION AND INSULATION

96. Clause F5.3 – Determination of Impact Sound Insulation Ratings

This part sets out the construction requirements for floors and walls in buildings required to have a sound insulation rating which must comply with sub-clauses (a), (b) & (c).

Comments: It is recommended that the proposed design be reviewed by an acoustic consultant prior to the issue of the Construction Certificate to ensure that it can meet the requirements of Part F5.

97. Clause F5.4 – Sound Insulation Rating of Floors

The sound rating of floors in a Class 2 or 3 building must be calculated in accordance with the requirements of sub-clause (a) and the floors in a Class 9c aged care building must be calculated in accordance with sub-clause (b). The deemed-to-satisfy construction requirements are set out in **Specification F5.2. Table 3A** of the Specification prescribes Acceptable Forms of Construction for Floors.

Comments: It is recommended that an Acoustic Consultant be engaged to confirm compliance with the requirement of this clause have been achieved in relation to the Hotel areas on Levels 4-13.

98. Clause F5.5 – Sound Insulation Rating of Walls

The sound rating required for walls in Class 2 and 3 buildings and Class 9c aged care buildings is set out in sub-clauses (a) to (f). The deemed-to-satisfy construction requirements are set out in **Specification F5.2. Table 2A** of the Specification prescribes Acceptable Forms of Construction for Walls.

Comments: It is recommended that an Acoustic Consultant be engaged to confirm compliance with the requirement of this clause have been achieved in relation to the Hotel areas on Levels 4-13.

99. Clause F5.6 – Sound Insulation Rating of Services

This clause details the separation requirements for services. The requirements only apply to services which pass through more than one sole-occupancy unit or are located in a wall or floor cavity which separates sole-occupancy units. F5.6 does not apply if the pipe is only located in a single unit or any part of a Class 2, 3 or 9c building which is not part of a sole-occupancy unit.

Comments: It is recommended that an Acoustic Consultant be engaged to confirm compliance with the requirement of this clause have been achieved in relation to the Hotel areas on Levels 4-13.

100. Clause F5.7 – Sound Isolation of Pumps

A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.

Comments: It is recommended that an Acoustic Consultant be engaged to confirm compliance with the requirement of this clause have been achieved in relation to the Hotel areas on Levels 4-13.



SECTION G – ANCILLARY PROVISIONS

PART G1 MINOR STRUCTURES AND COMPONENTS

101.NSW Clause G1.101 – Provision for Cleaning of Windows

A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

A building satisfies this requirement where the windows can be cleaned wholly from within the building; or provision is made for the cleaning of the windows by a method complying with the occupational Health and Safety Act 2000 and regulations made under that Act.

- (a) A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.
- (b) A building satisfies (a) where-
 - (i) the windows can be cleaned wholly from within the building; or
 - (ii) provision is made for the cleaning of the windows by a method complying with the occupational Health and Safety Act 2000 and regulations made under that Act.

Comments: Design documentation to be provided with the Construction Certificate documentation.

SECTION J – ENERGY EFFICIENCY

102. Part J1 – BUILDING FABRIC

The provision of insulation of the building envelope will be required in the proposed Building, in accordance with **Clauses J1.0 to J1.6**, and the **Tables therein**, including Thermal Construction General, Roof and Ceiling Construction, Rooflights, Walls, and Floors. Design details and/or certification of design will be required to be provided in this regard.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

103. Part J2 – GLAZING

Glazing within the external building envelope will be required to be assessed/designed to achieve compliance with **Clauses J2.0 to J2.5**, including the **Tables therein**, having regard to the maximum aggregate air-conditioning energy attributable to each façade of the proposed building. A calculation demonstrating that the proposed design of the building complies with the requirements of **Part J2** is required to be provided in this regard.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

104. Part J3 – BUILDING SEALING

The proposed building envelope will be required to be sealed to prevent air infiltration in accordance with the requirements of **Clauses J3.0 to J3.6**. Details or certification that the proposed building design complies with the requirements of **Part J3** is required to be provided.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

105. Part J5 – AIR-CONDITIONING & VENTILATION SYSTEMS

Details and/or design certification which confirm that any proposed air-conditioning system or unit within the proposed building achieves compliance with the relevant requirements of **Part J5** will be required to be provided from the mechanical engineer.



Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

106. Part J6 – ARTIFICIAL LIGHTING & POWER

Details and/or design certification which confirm that all artificial lighting, power control, and boiling/chilled water units within the proposed building achieves compliance with the relevant requirements of **Part J6** will be required to be provided from the electrical engineer.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

107. SECTION J7 – HOT WATER SUPPLY & SWIMMING POOL & SPA POOL PLANT

Details and/or design certification which confirm that any proposed hot water supply system within the proposed building achieves compliance with the relevant requirements of **Part J7** (Section 8 of AS 3500.4) will be required to be provided from the hydraulic engineer.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.

108. SECTION J8 – ACCESS FOR MAINTENANCE & FACILITIES FOR MONITORING

See NSW Subsection J8 for access to maintenance.

Access must be provided to all plant, equipment and components that require maintenance in accordance with Part I2.

Comments: It is noted that an ESD Consultant has been engaged to provide advice on Section J Compliance.



E. CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed Club & Hotel building and the new Carpark Building located on Church Road in Lidcombe against the Deemed-to-Satisfy Provisions of the BCA 2016. Arising from the review, it is considered that the proposed development can readily achieve compliance with the relevant provisions of the BCA. Where compliance matters are proposed to comply with the performance requirements (rather than DTS Provisions), the development of an Alternative Solution Report will be required prior to the issue of the Construction Certificate.

The following fire safety measures are required within Club/Hotel building:

Essential Fire and Other Safety Measures	Standard of Performance
Access Panels, Doors & Hoppers	BCA Clause C3.13 & AS 1530.4 - 2005
Alarm Signaling Equipment	AS1670.3 - 2004
Automatic Fire Detection & Alarm System	BCA Spec. E2.2a & AS 1670.1 - 2004.
Automatic Fire Suppression System (sprinklers)	BCA Spec. E1.5 and AS 2118.1 - 1999
Building Occupant Warning System activated by the Fire Detection and Alarm System and Sprinkler System	BCA Clause Spec E2.2a Clause 6 & Clause 3.22 of AS 1670.1 - 2004 BCA Spec E1.5 Clause 8 and/or Clause 3.22 of AS1670.1-2004
Emergency Lifts	BCA Clause E3.4 & AS 1735.1-2003/AS 1735.2-2001
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 - 2005
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 - 2005
Fire Control Centre	BCA Spec. E1.8
Fire Dampers	BCA Clause C3.15, AS 1668.1 - 1998 & AS 1682.1 & 2 - 1990
Fire Doors	BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.6 & C3.7, C3.8, C3.11 and AS 1905.1 - 2005
Fire Hose Reels	BCA Clause E1.4 & AS 2441 - 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 - 2005
Fire Seals	BCA Clause C3.15 & AS 1530.4 - 2005 & AS 4072.1 - 2005
Lightweight Construction	BCA Clause C1.8 & AS 1530.3 - 1999
Mechanical Air Handling Systems	BCA Clause E2.2, AS/NZS 1668.1 - 1998 & AS 1668.2 - 1991
Paths of Travel	EP & A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 - 2001
Pressurisation System (Fire Isolated Exits)	BCA Part E2 and AS 1668.1 - 1998
Smoke Hazard Management Systems	BCA Part E2 & AS/NZS 1668.1 - 1998
Sound System & Intercom System for Emergency Purposes	BCA Clause E4.9 & AS 1670.4 - 2004 & AS4428.4 - 2004
Warning & Operational signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 - 2005, BCA Clause D3.6, D2.23, E3.3



The following fire safety measures are required within new carpark building:

Essential Fire and Other Safety Measures	Standard of Performance
Emergency Lighting	BCA Clause E4.4 & AS 2293.1 - 2005
Exit Signs	BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 - 2005
Fire Doors	BCA Clause C2.12, C2.13, C3.8, and AS 1905.1 - 2005
Fire Hose Reels	BCA Clause E1.4 & AS 2441 - 2005
Fire Hydrant Systems	Clause E1.3 & AS 2419.1 - 2005
Fire Seals	BCA Clause C3.15 & AS 1530.4 - 2005 & AS 4072.1 - 2005
Paths of Travel	EP & A Regulation Clause 186
Portable Fire Extinguishers	BCA Clause E1.6 & AS 2444 - 2001
Stretcher Lifts	BCA Clause E3.2
Warning & Operational signs	Section 183 of the EP & A Regulations 2000, AS 1905.1 - 2005, BCA Clause D3.6, D2.23, E3.3

Notes:

The measures included and the standards of performances nominated above may vary as a result of any proposed fire engineered alternative solutions.



F. APPENDIX 1

TABLE 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)		
	Structural adequacy/ Integrity/ Insulation		
	Class 2	Class 5, 7a & 9	Class 6
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
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90
For non- loadbearing parts—			
less than 1.5 m	-/ 90/ 90	-/120/120	-/180/180
1.5 to less than 3 m	-/ 60/ 60	-/ 90/ 90	-/180/120
3 m or more	-/-/-	-/-/-	-/-/-
EXTERNAL COLUMN not incorporated in an external wall , where the distance from any fire-source feature to which it is exposed is—			
less than 3 m	90/-/-	120/-/-	180/-/-
3 m or more	-/-/-	-/-/-	-/-/-
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180
INTERNAL WALLS—			
Fire-resisting lift and stair shafts —			
Loadbearing	90/ 90/ 90	120/120/120	180/120/120
Non- loadbearing	-/ 90/ 90	-/120/120	-/120/120
Bounding public corridors , public lobbies and the like—			
Loadbearing	90/ 90/ 90	120/-/-	180/-/-
Non- loadbearing	-/ 60/ 60	-/-/-	-/-/-
Between or bounding sole-occupancy units —			
Loadbearing	90/ 90/ 90	120/-/-	180/-/-
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
Non- loadbearing	-/ 90/ 90	-/ 90/ 90	-/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES			
and COLUMNS—	90/-/-	120/-/-	180/-/-
FLOORS	90/ 90/ 90	120/120/120	180/180/180
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30



Class 7a Carpark (Sprinkler Protected)

Note: As the proposed basement carpark levels are required to be sprinkler protected the fire rating concessions of Table 3 may be applied as detailed below:

EXTERNAL WALLS LOADBEARING

<i>BETWEEN 0-M AND 3M FROM BOUNDARY</i>	<i>60/60/60</i>
3m or more from boundary	-/-/-

External Walls Non-loadbearing

<i>BETWEEN 0-M AND 3M FROM BOUNDARY</i>	<i>-/60/60</i>
3m or more from boundary	-/-/-

Service Shafts (loadbearing)	60/60/60
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Service Shafts (non-loadbearing)	-/60/60
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Other Loadbearing Internal Walls, Beams, Trusses and Columns.	60/-/-
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Floors	60/60/60
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Notes:

Note 1: Where a combustible material is used as a finish or lining to a wall or roof, or sunscreen, or awning, to a building element required to have an FRL the material must be exempted or complies with the fire hazard properties prescribed under C1.10 and does not otherwise constitute an undue risk of fire spread via the façade of the building.

Note 2: Fire isolated stairs and lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 120/120/120.

Note 3: External walls and common walls must be non-combustible construction.

Note 4: Internal lightweight walls to be fire rated, as well as non-load bearing lift, ventilating, pipe, garbage or similar shaft wall must be of non-combustible construction.

Note 5: The walls to fire rated shafts must achieve the fire rating from both directions i.e. from inside and outside the shaft.

Note 6: The lintels within any walls required to be fire rated will achieve the same fire rating as the walls within which they are located. This is not applicable if the opening is less than 3m wide and the masonry is non-load bearing or less than 1.8m wide of the masonry is loadbearing.