BLACKETT MAGUIRE+ GOLDSMITH

# BCA & DDA ASSESSMENT REPORT

## DEE WHY RSL CLUB
## STAGE 5 CLUB EXTENSION & ALTERATIONS
## 932 PITTWATER RD, DEE WHY NSW

Revision 6

28 February 2018

Project No.: 160161


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|---|---|---|---|---|
| **DATE** | **REVISION** | **STATUS** | **AUTHOR** | **REVIEWED** |
| 10/06/2016 | 0 | For DA Submission | DG | BH |
| 08/03/2017 | 1 | For DA Submission – Updated DA Scope | DG | TH |
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| 21/03/2017 | 3 | For DA Submission – Minor Amendments | DG | TH |
| 21/06/2017 | 4 | For Design Team Review – Updated to Include Alterations to Level 2 North-Eastern Portion | DG | TH |

| REPORT STATUS | | | | |
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| 20/07/2017 | 5 | For Design Team Review – Updated to Incorporate Latest Plans and FEBQ Comments | DG | TH |
| 28/02/2018 | 6 | For S.96 Submission – Carpark Design Changes | DG | TH |

**Prepared by:**

Dean Goldsmith
*Director*
Blackett Maguire + Goldsmith

# A. INTRODUCTION

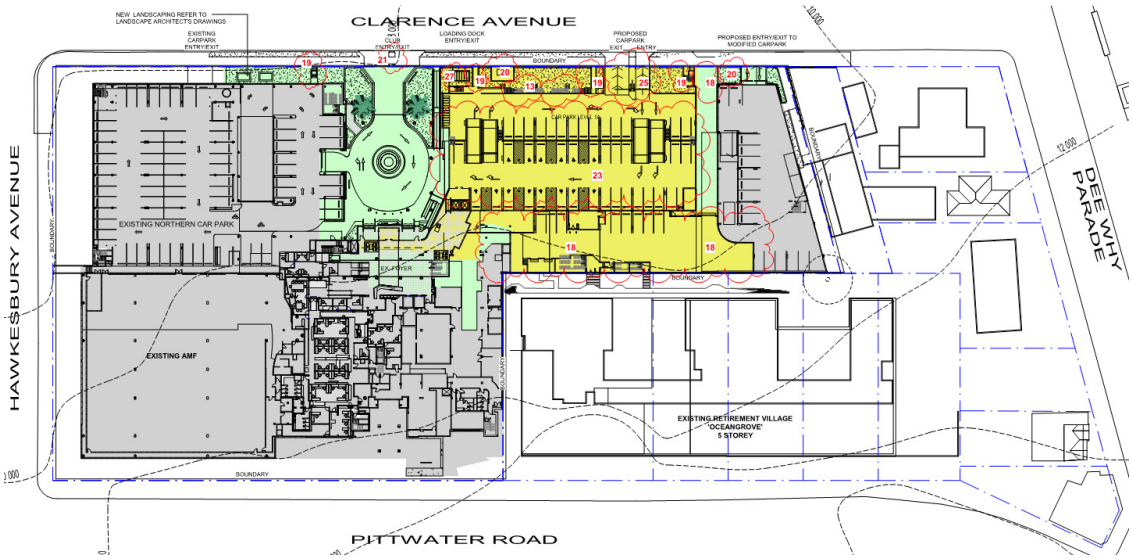
## A.1 BACKGROUND / PROPOSAL

Blackett Maguire + Goldsmith Pty Ltd (BM+G) have been commissioned by *Dee Why RSL Club* to undertake a Building Code of Australia (BCA) 2016 assessment for the proposed new club extension and alterations to the existing club facility, pursuant to the provisions of clause 145 of the *Environmental Planning & Assessment Regulation 2000* and clause 18 of the *Building Professionals Regulation 2007*.

It is noted that the project is proposed to be carried out under multiple Development Applications, including:

+ DA1: The construction of five (5) levels of Basement Carpark; Level 1 Carpark (Ground Floor), ancillary loading areas, and Club Lobby; Level 2 Carpark (First Floor), Level 2 extended Club & Restaurant Facilities; and the retention of Levels 1 and 2 (Ground Floor and First Floor) of the southern part of the existing carpark; and
+ DA2: The fitout of Flame Restaurant and associated Club areas and the construction of an operable pitched roof in the north-eastern portion of the Level 2 hospitality/club area.

Note: The existing carpark to be retained on the southern end of the site will be a freestanding building and as such will be assessed independently of the base building extension.




*Source: DA-1051 Revision 2*

## A.2 AIM

The aim of this report is to:

+ Confirm that the referenced documentation has been reviewed by an appropriately qualified Building Surveyor.
+ Undertake an assessment of the proposed new building works against the deemed-to-satisfy provisions of the BCA.
+ Identify matters that require plan amendments in order to achieve compliance with the BCA.
+ Identify matters that are to be required to be addressed by Alternative Solutions.
+ Identify essential fire safety measures applicable to the building.

- Accompany the Development Application/s.96 Application for consideration and approval by the Consent Authority, and to enable the Consent Authority to be satisfied that the development can readily achieve compliance with the BCA.

## A.3 PROJECT TEAM

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

- Bradley Holmes (Accredited Certifier) – Peer Review
- Dean Goldsmith (Director) – Report Author

## 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.
- Fire Engineering Reports prepared by: SSL (28/8/2001 – Rev. V03); Scientific Fire Services (18/9/2007 Rev. V1-0) and (04/7/2005 Rev. V1-2); and Innova Services (01/9/2015 Rev. R01). Note: The alternative solutions included in these reports have been reviewed in relation to our assessment below – however, comment needs to be provided in any proposed alternative solutions prepared for the new building extension as to the applicability (or not) of the recommendations detailed in these reports as they relate to the existing portions of the building.
- FEBQ document prepared by Innova Services Version V03 dated 21/11/2017
- Architectural plans prepared by Altis Architects:

| Drawing No. | Revision | Date | Drawing No. | Revision | Date |
|---|---|---|---|---|---|
| DA-1050 | 2 | 14.02.2018 | DA-1104 | 2 | 14.02.2018 |
| DA-1051 | 2 | 14.02.2018 | DA-1105 | 2 | 14.02.2018 |
| DA-1052 | 2 | 14.02.2018 | DA-1106 | 2 | 14.02.2018 |
| DA-1100 | 2 | 14.02.2018 | DA-1108 | 2 | 14.02.2018 |
| DA-1101 | 2 | 14.02.2018 | DA-2000 | 2 | 14.02.2018 |
| DA-1102 | 2 | 14.02.2018 | DA-2100 | 2 | 14.02.2018 |
| DA-1103 | 2 | 14.02.2018 | DA-3000 | 2 | 14.02.2018 |

## 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 and inspections of the site.

- No assessment has been carried out on the existing parts of the building that are not subject to alterations or impacted upon by the proposed new extension works including the northern basement carpark level, the AMF Bowling Centre and Levels 3 & 4 of the Club facility, except where specifically referenced in the report below.
- 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 ½ 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 building:

| | |
|---|---|
| ▪ **BCA Classification:** | Main Building:<br>Class 5 (Offices)<br>Class 6 (Restaurants/Cafe)<br>Class 7a (Carpark)<br>Class 7b (Loading Dock & Storage Areas)<br>Class 9b (Club Facilities/Bars)<br><br>Existing Southern Carpark:<br>Class 7a (Carpark) |
| ▪ **Rise in Storeys:** | Main Building - Four (4); Existing Southern Carpark – One (1) |
| ▪ **Effective Height:** | Main Building - 14.39m (>12m); Existing Southern Carpark – <12m |
| ▪ **Type of Construction:** | Main Building - Type A Construction<br><br>Existing Southern Carpark - Type C Construction |
| ▪ **Climate Zone:** | Zone 5 |

### B.2 FIRE SOURCE FEATURE

The distances from the nearest Fire Source Features from the new building extension are:

| BOUNDARY | DISTANCE TO FIRE SOURCE FEATURE |
|---|---|
| **Western Boundary** | Main Building & Existing Southern Carpark - 0m (to the allotment boundary adjoining the existing 4 storey apartment building on Pittwater Rd) |
| **Southern Boundary** | Existing Southern Carpark - 3.0m (to the southern allotment boundary)<br>Main Building - >3m (to the existing carpark structure) |
| **Northern Boundary** | Main Building - >6m (to the far boundary of Hawkesbury Avenue)<br>Existing Southern Carpark - >3m (to new Main Building extension) |
| **Eastern Boundary** | Main Building & Existing Southern Carpark - >6m (to the far boundary of Clarence Ave) |

## 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 | FEBQ ISSUE NUMBER |
|---|---|---|---|
| 1. | C2.2 | The fire compartment size of the three Club Levels (Levels 1, 2 & 3) exceed the maximum floor area volume limitations of Table C2.2. | 1 |

| | BCA CLAUSES | DESCRIPTION | FEBQ ISSUE NUMBER |
|---|---|---|---|
| 2. | C2.6 | As the existing building is not fully sprinkler protected an alternative solution is required to not comply with the vertical separation of openings requirements of C2.6 in the new extension. | 2 |
| 3. | C2.8, C2.9 & Spec C1.1 | Reduction of the FRL's to the Loading Dock areas and to the adjacent Class 9b and Class 7a areas on Carpark Level 1 & Level 1B. In addition, consideration is to be given to a reduction in FRL on the Level 2 Main Trading Level to reduce the 3hr FRL's applicable to the Class 6 area in this area. | 3 |
| 4. | C3.2 | Protection of the roller shutter to the loading dock in the south-west corner of Car Park Level 1 is required due to the proximity of the new extension to the existing southern car park building. As compliant protection is not proposed, an alternative solution from the Fire Engineer is required. ***Note: This is not currently documented in the FEBQ.*** | # |
| 5. | D1.4/D1.5 | The extended travel distances, distances to a point of choice to alternative exits and distance between alternative exits throughout the new building & existing carpark will need to be considered under a performance solution. | 4 & 5 |
| 6. | D1.6 | The aggregate egress width from Level 2 & Level 3 (existing) will need to be addressed as an alternative solution – all other levels are compliant. ***Note: The proposed final design non-compliance on Level 3 is not currently address in Item 5 of the FEBQ.*** | 5 |
| 7. | D1.7 | The discharge of the existing fire stair adjacent to the main entry Porte Cochere from Clarence Ave is non-compliant with D1.7(b) as a result of the Level 2 extension over. In addition, an alternative solution will be required for the discharge on Level 1 of the new exit stair on Grids 10/11-CB/CC into the undercroft area formed by the building over the Porte Cochere. The Kitchen area (Bistro) in Zone C of Level 2 opens directly into the fire stair (no.8) which is non-compliant with D1.7(a). | 6 |
| 8. | D1.9 | The open exit stair between Level 2 and Level 1 Lobby forms a non-fire isolated exit stair, however, the discharge distance from the base of this stair exceeds 20m to a doorway to open space and discharge is not directly at the level of road or open space as it requires discharge through the Porte Cochere down a ramp to Clarence St footpath. | 13 |
| 9. | D1.10 | Discharge paths of the exit doors from the Carpark and the fire stairs serving the western side of the new extension onto the adjoining allotment (Oceangrove Retirement Village) is non-compliant with D1.10 - as it is not an unobstructed path and its width is less than the aggregate width of the exits it serves. | 7 |
| 10. | E1.3 | The existing hydrant booster location is not visible from all building entrances and will not be shielded with a compliant radiant heat shields per AS 2419.1-2005. | 8 |

| | BCA CLAUSES | DESCRIPTION | FEBQ ISSUE NUMBER |
|---|---|---|---|
| 11. | E1.5 | The existing AMF Bowling Centre will remain un-sprinklered and the separating construction will not fully comply between the non-sprinklered and sprinklered portions of the building on this level.<br>The Fire Services Engineer has also proposed alternative solutions relating to the distance between ceiling and sidewall sprinklers on Level 2 where the sliding roof is proposed and dry sprinkler heads and supply to the lift shaft. | 9, 14 & 15 |
| 12. | E1.8 | Access to the Fire Control Centre necessitates a change in level exceeding 300mm. | 11 |
| 13. | E2.2 | Smoke Hazard Management Systems serving the Club Levels of the building will need to be the subject of further assessment in conjunction with the egress assessment identified above. | 12 |
| 14. | Part G3 | As the atrium over the Main Entry on Carpark Level 1 inter-connects with Level 1B, Level 2 and Level 3 above (and the building is not sprinkler protected throughout all areas) – an alternative solution is required to prevent the application of the additional fire safety requirements of Clauses G3.2-G3.8. | 10 |

# 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 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.*

*Note: Confirmation is required from the Structural Engineer at the Construction Certificate stage to verify that the existing southern carpark that is proposed to be retained is capable of being modified / partially demolished and will comply with Section B of the BCA when completed.*

## 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.

*Comments: Type A construction applies to the new and existing portions of the building (with the exception of the existing southern carpark) as it has a rise in storeys of more than 3. Type C Construction applies to the existing southern carpark that is proposed to be retained. Refer to comments under Spec. C1.1 below and Appendix 1 and Appendix 2 for the relevant FRL tables.*

### 3. Clause C1.10 – Fire Hazard Properties

The fire hazard properties of the proposed 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 5,000m$^2$ with a volume of 30,000m$^3$, and in the Class 9b parts is 8,000m$^2$ with a volume of 48,000m.$^3$ The floor area of the compartment formed by the three (3) interconnected Club levels (Levels 1, 2, & 3) exceeds these maximum limitations and as such is to be addressed as an alternative solution by the fire engineer. In this regard, the relevant Performance Requirements are CP1 and CP2.*

*The maximum compartment size permitted for the existing Class 7a non-sprinklered southern carpark that is being retained is 2,000m$^2$ / 12,000m$^3$ which will not be exceeded, and as such complies with Table C2.2.*

### 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 where the proposed building will be fitted with a sprinkler system complying with BCA Spec E1.5 throughout. It is noted, that currently both the AMF Bowling Centre on Carpark Level 1 and the adjacent existing Carpark area is not currently sprinkler protected (whilst the remainder of the building is). It is understood that the existing carpark will be sprinkler protected, however the AMF Bowling Centre will remain non-sprinkler protected – see further notes under E1.5 below in this regard. As compliant vertical separation is not proposed in the new extension and the existing building is not fully sprinkler protected an alternative solution is to be prepared by the Fire Engineer to address Performance Requirement CP2.*

*Note: The provision of C2.6 do not apply to the existing southern carpark building.*

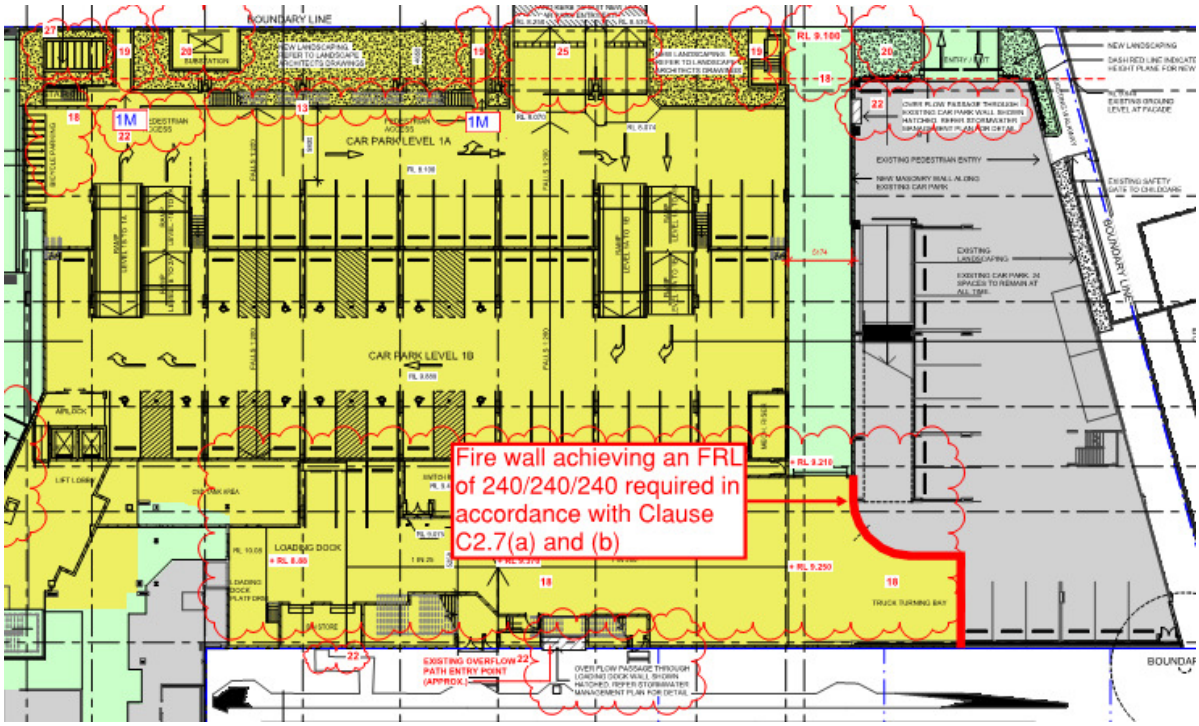
## 6. Clause C2.7 – Separation by Fire Walls

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. See C2.8 below detailing the requirements of the required fire wall on Carpark Level 1 to separate the Class 7a Carpark areas and Class 9b & 5 Club areas from the Class 7b Loading Dock.*

*An additional fire wall is required separating the existing southern car park from the new building in accordance with C2.7 (a) and (b) achieving an FRL of 240/240/240 in order for the existing carpark and new building to be treated as separate buildings for the purposes of the DtS provisions of Sections C, D and E – refer below mark-up:*




*Note: Consideration may be given to an alternative solution from the Fire Engineer for a reduced FRL of the subject fire wall – this is not currently documented in the FEBQ.*

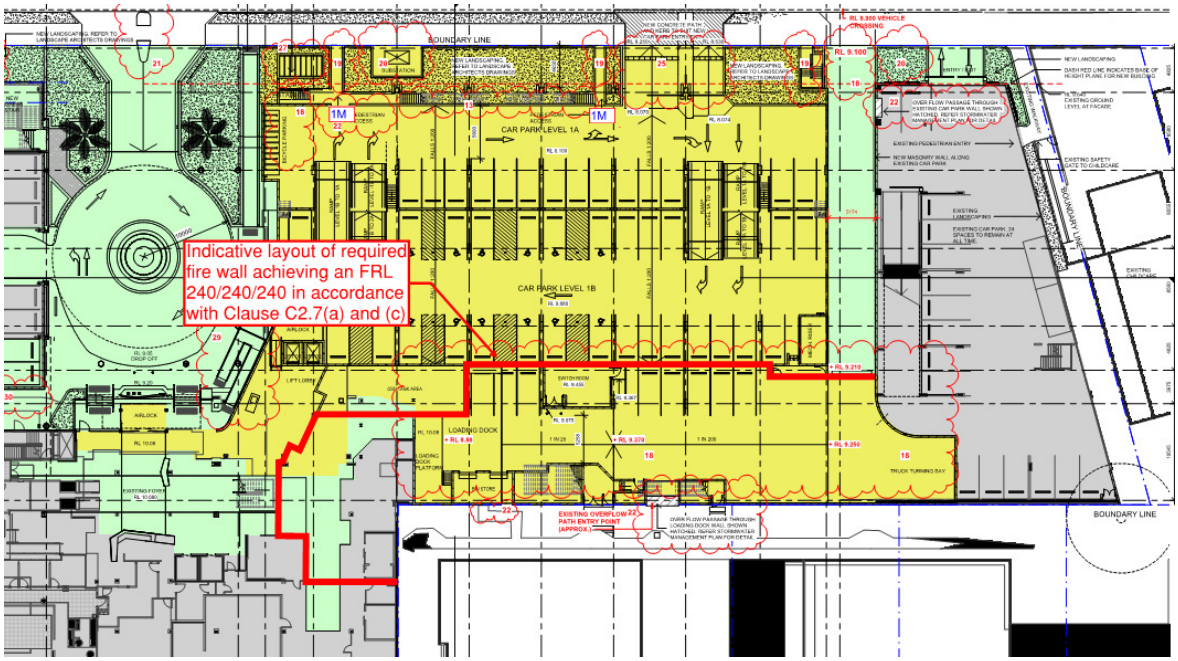
## 7. Clause C2.8 – Separation of Classifications in the Same Storey

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 Carpark Level 1 - the Class 7a Carpark areas & Class 9b/5 Club areas are located adjacent to the Class 7b Loading Dock, Plantroom and Storage areas on the same storey. These areas have differing FRL requirements (Class 5 / 7a / 9b – 2hrs & Class 7b – 4hrs). As such in accordance with C2.8(b) a 240/240/240 FRL fire wall is required to separate these areas in order to apply the lower FRL in the Class 5 / 7a / 9b portions of these storeys (see mark-up below indicating the possible position of the required fire wall). It is noted that an alternative solution is proposed by the Fire Safety Engineer for a reduced FRL of the subject fire wall and the building elements within the Class 7b portions of these floors. Note: The final layout of the required fire wall will need to be detailed on the Architectural plans at CC application stage.*




*In relation to the Class 6 and Class 9b areas on Levels 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, for example - The floor above the Class 7a carpark is to achieve an FRL of 120/120/120 and the new floor construction to Level 3 around the new fire stair above Class 6 & 9b Level 2 areas will require an FRL of 180/180/180. As identified above, an alternative solution is proposed 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 the Club 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 then -/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 on the CC Application floor plans.*

## *PART C3: PROTECTION OF OPENINGS*

### 12. 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

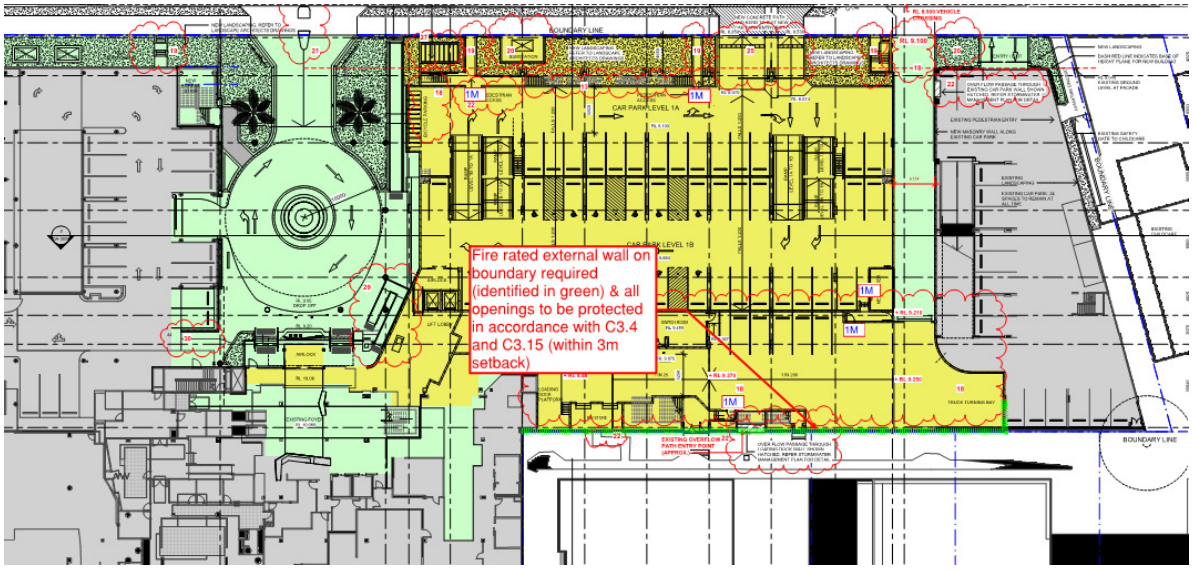
(iii) 6 m from another building on the allotment that is not a Class 10,

be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally; and

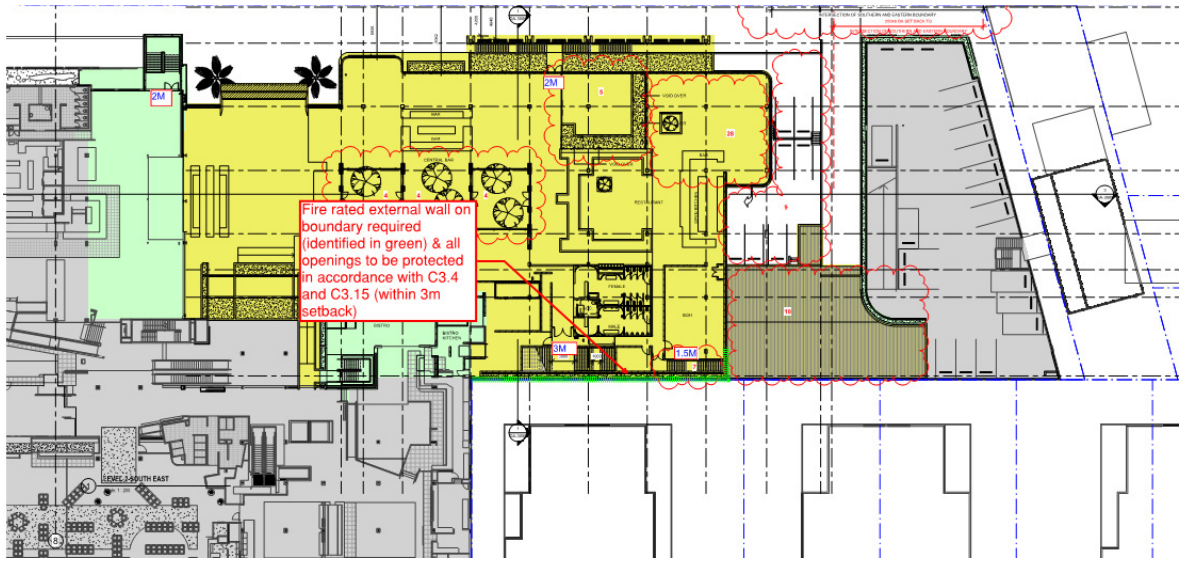
(b) If the required to be protected under (a), not occupy more than 1/3 of the area of the external wall of the storey in which it is located unless they are in a Class 9b building used as an open spectator stand.

*Comments*: *Any proposed openings in the western external walls of the new building on Carpark Level 1 and on Club Level 2 that are located within 3m of the western allotment boundary will require protection in accordance with C3.4 or C3.15 – see indicative mark-up of relevant location below.*

*Note: Any existing or proposed openings in the western external wall of the southern carpark will also require protection in accordance with C3.4.*




***Carpark Level 1***




***Club Level 2***

*Additionally, as the roller shutter to the loading dock in the south-west corner of the new Car Park Level 1 is located within 6m of another building on the same allotment, the opening is required to be protected in accordance with C3.4. As compliant protection is not proposed, the roller shutter will need to be addressed as an alternative solution from the Fire Engineer.*

## 13. Clause C3.4 - Acceptable Methods of Protection

Where protection is required, doorways, windows and other openings must be protected as follows:

(i) Doorways –
  (A) Internal or external wall- wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or
  (B) -/60/30 fire doors that are self-closing or automatic closing.

(ii) Windows –
  (A) Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or
  (B) -/60/- automatic closing fire shutters.

(iii) Other openings –
  (A) Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or
  (B) Construction having FRL not less than -/60/-.

(a) Fire doors, fire windows and fire shutters must comply with **Specification C3.4.**

*Comments: Any openings in the external walls referenced under C3.2 above are required to be protected using one of the methods listed under C3.4 (as identified above) or C3.15 (see further details below).*

## 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 Carpark Level 1 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. Details demonstrating compliance are to be included on the CC Application plans.*

## 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 exits in the fire wall on Carpark Level 1 in the Loading Dock. Details demonstrating compliance are to be included on the CC Application Plans.*

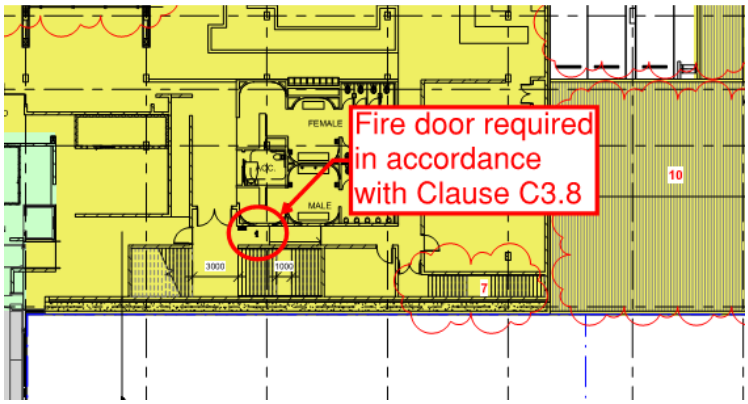
## 16. Clause C3.8 – Openings in Fire-isolated Exits

Specifies that the doorways that open into fire-isolated exits must be protected by -/60/30 FRL 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 proposed and existing fire isolated exit stairs on all levels of the Building are to be provided with AS 1905.1-2015 compliant -/60/30 FRL fire doors.*

*A fire door (or fire rated shaft wall) complying with this Clause is required in the south-west corner of the Club Level 2 between the corridor and the fire stair per the below mark-up:*




*Note: The existing exit stair serving the rooftop level of the existing southern carpark is not required to be fire isolated and as such a fire door is not required to be provided to this exit on Level 1 or Ground Floor.*

## 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 C3.12 – 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 though openings in these building elements, required to resist the spread of fire.

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

### 20. 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.*

### 21. 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.*

### 22. 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 proposed new building extension 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 Carpark Levels 1 & 2 and The Main Trading Level 2.*

*In addition, as noted under C3.2 above the new external walls of the proposed extension are located directly on the western allotment boundary on Carpark Level 1 and Club Level 2 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. Similarly, the 3m return of the external wall in the south-western corner of the proposed carpark and Club Level 2 is required to achieve an FRL of 120/120/120. In this regard, attention is drawn to the zone identified on the mark–up under C3.2 above.*

*Furthermore, confirmation is required from the Structural Engineer to verify if the western external wall of the existing carpark that is proposed to be retained achieves an FRL of 90/90/90 if loadbearing or 60/60/60 if non-loadbearing. The 3m wall return in the north-western and south-western corners of the existing carpark are to achieve an FRL of 60/60/60 also as they are within 3m of the side boundary.*

*The building elements throughout the Loading Dock area, which are required to achieve an FRL of 240/240/240, have been confirmed by the Structural Engineer to achieve an FRL of 60 minutes in the worst-case areas (refer Aconex correspondence from Census Advisory dated 19.06.2017). In this regard, the building elements required to achieve an FRL are to be upgraded to achieve a minimum FRL of 120/120/120 throughout the Loading Dock, and an Alternative Solution is required to be prepared by the Fire Engineer to rationalise the reduction in FRLs from 240/240/240 to 120/120/120, addressing Performance Requirements CP1 and CP2.*

*Note: The current design drawings show the setback of the existing carpark from the southern boundary is greater than 3m (3.01m) – confirmation of this is required to verify the FRL requirements of this wall.*

### 23. 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 the 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*

### 24. 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 50m$^2$ and the distance of travel from any point on the floor to a single exit is not more than 20m.

*Comments: Proposed exits in the new portions of the building comply with this requirement*

*Note 1: It is proposed to delete an exit from the SE corner of existing Level 3 and as such an assessment of the impact of this exit deletion is noted below under D1.4, D1.5, & D1.6.*

### 25. 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 5/7a/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 proposed exit stairs serving the basement carpark levels and the upper club levels are required to be fire isolated where they connect more than 3 levels – the current design complies with this requirement.*

*Note: Tthe exit stair within the existing southern carpark that is proposed to be retained is not required to be fire-isolated.*

### 26. 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 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 are to be addressed by the Fire Safety Engineer as an Alternative Solution addressing Performance Requirement DP4 & EP2.2.*

*Basement Carpark Levels -5 to -1*
+ *42m to the nearest exit from the western carpark areas of the higher split-level (B);*

*Carpark Level 1 -Loading Dock Area*
+ *30m to a point of choice between alternative exits from the loading dock platform;*

*Existing Southern Carpark Level 1*
+ *39m to a single exit from the carpark areas*

*Existing Southern Carpark Level 2*
+ *35m to a single exit from the carpark areas*

*New Carpark Level 2*
+ *32m to a single exit from the carpark areas*

*Club Level 2*
+ *23m to a point of choice to alternative exits from the extended Bistro area.*
+ *43m to the nearest exit from the existing Kitchen at the rear of the New Sports Bar.*
+ *47m to the nearest exit from the external smoker's terrace in the north-eastern portion (adjacent to the proposed amenities/toilets – Grid B-7/8)*
+ *45m to the nearest exit from the new bar enclosure in the north-eastern portion (Grids D-3/4)*

*Club Level 3 (Temporary During Construction)*
+ *45m to the nearest exit from the existing room in the SE corner of Level 3 (as shown in the mark-up below) as a result of the deletion of the adjacent exit stair.*

## 27. 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 exceed the maximum allowable travel distance of 60m. In this regard the maximum distances between alternative exits within the Basement Carpark Levels -5 to -1 is 80m (when measured through the stairs the separate the split carpark levels); the maximum distance between alternative exits within Carpark Level 1 is 70m; the maximum distance between alternative exits within Club Level 2 is 78m; and the maximum distance between alternative exits within the auditorium on Club Level 3 (existing) is 75m as a result of the deletion of the exit stair in the SE corner.*

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

## 28. 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 Level 2 and Carpark Level 1 need to 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.*

*Additionally, attention is drawn to the 3m wide fire-isolated stair in the south-west corner of the Club Levels where the unobstructed width between handrails must be no less than 3m – refer additional comments under Clause D2.9 below regarding the need for a dividing handrail for the stairway to be counted as having a width of more than 2m.*

*The population numbers have been determined in accordance with D1.13 (see below) and in consultation with Altis Architects, Dee Why RSL and Census Advisory, and as a result the following minimum exit widths area required from each floor as follows:*

- *Basement Carpark Levels -5 to -1 = 1m (Proposed Design Complies)*
- *New Carpark Level 1 = 1.0m (Proposed Design Complies)*
- *Existing Carpark Level 1 (North & South) = 1.0m (Proposed Design Complies)*
- *Carpark Level 1 Club Office & Loading Dock = 1.0m (Proposed Design Complies)*
- *New Carpark Level 2 = 1.0m (Proposed Design Complies)*
- *Existing Carpark Level 2 (North & South) = 1.0m (Proposed Design Complies)*
- *Club Level 2 = 20.5m (Proposed Design of 19.5m does not comply – alternative solution required)*
- *Club Level 3 – 9.0m (Proposed Temporary Design during construction of 4.0m, allowing for demolition of the SE exit stair, does not comply; and proposed 7.0m for completed design does not comply – alternative solution required for both temporary and final proposed exit configuration)*

*The extent of non-compliance on Level 2 and Level 3 (Temporary Non-Compliance during construction and final design) 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. Note: The proposed final design non-compliance on Level 3 is not currently addressed in Item 6 of the FEBQ.*

## 29. 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.

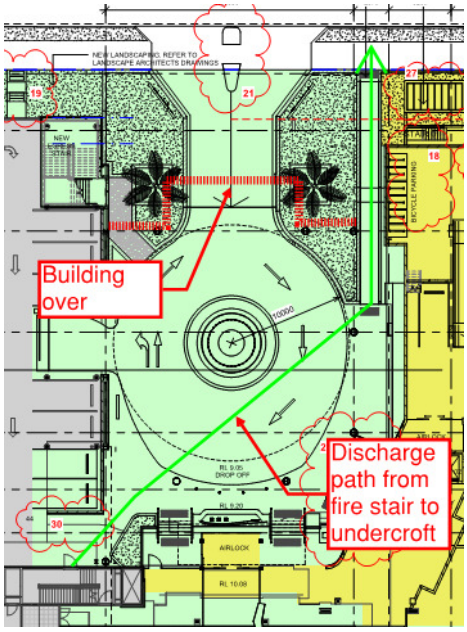
Note: a ramp for changes of level in a fire isolated passageway is required in a Class 9 building.

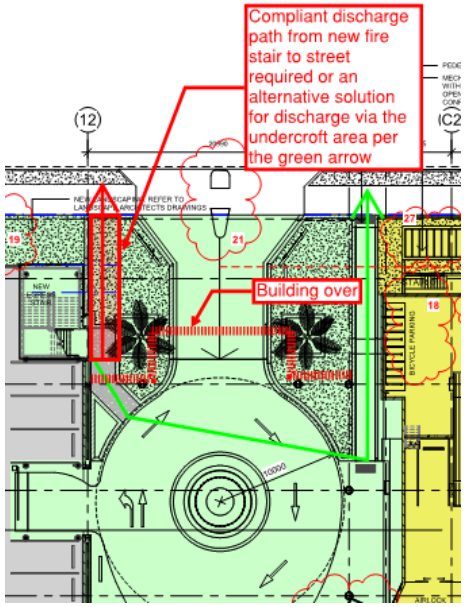
Where a path of travel from the point of discharge of a fire isolated exit necessitates passing within 6m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have –

- 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.

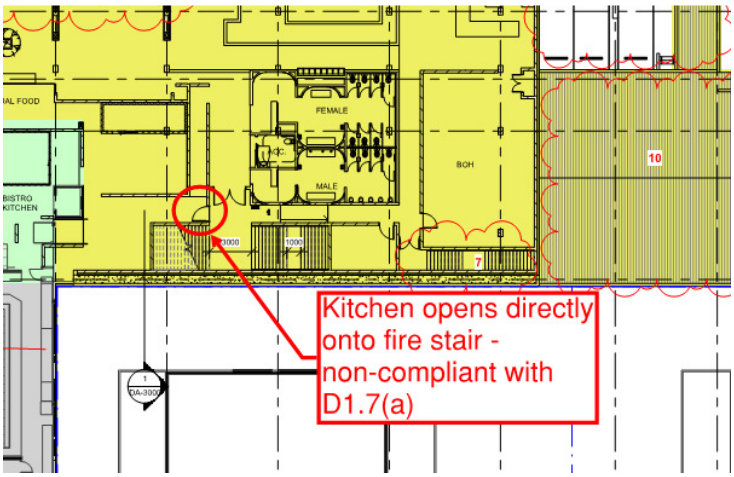
*Comments: Discharge from any of the proposed fire isolated stairs that will necessitate in passing by the external walls of the building within 6m – the external walls are required to achieve an FRL of 60/60/60 with any openings being protected internally in accordance with Clause C3.4. Details to be provided at CC Application stage in this regard.*

*In addition, the proposed extension of Level 2 over the current main entry from Clarence Ave, results in the discharge of the existing fire stair – shown in the mark-up below - to be non-compliant with the discharge requirements of D1.7(b). An alternative solution will be required to be provided by the fire engineer to address this new non-compliance and address Performance Requirement DP4, DP5 and EP2.2.*




*In addition to the above, it is noted that the Kitchen area (Bistro) in Zone C of Level 2 opens directly into the fire stair (no.8) which is non-compliant with D1.7(a) – see mark-up below. To address this issue, either a lobby is required or an additional alternative solution from the Fire Engineer will be necessary. Additionally, a fire door is required complying with Clause C3.8 in the area circled in blue below:*




## 30. 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.

*Comments*: *The proposed stairs serving the western side of the new Club area on Level 2 are designed to be fire isolated exits and as such they are being assessed against D1.7 above – if they are proposed to be designed as non-fire isolated exits they are required to comply with the requirements of this clause.*

*The open stair on C1-CG/CH between Level 2 and Level 1 Lobby forms a non-fire isolated exit stair, however, the discharge distance from the base of this stair exceeds 20m to a doorway to open space and discharge is not directly at the level of road or open space as it requires discharge through the Porte Cochere down a ramp to Clarence St footpath*

*Note: The non-fire isolated stairway serving the existing southern carpark that is proposed to be retained complies with the requirements of this clause.*

### 31. Clause D1.10 – Discharge from Exits

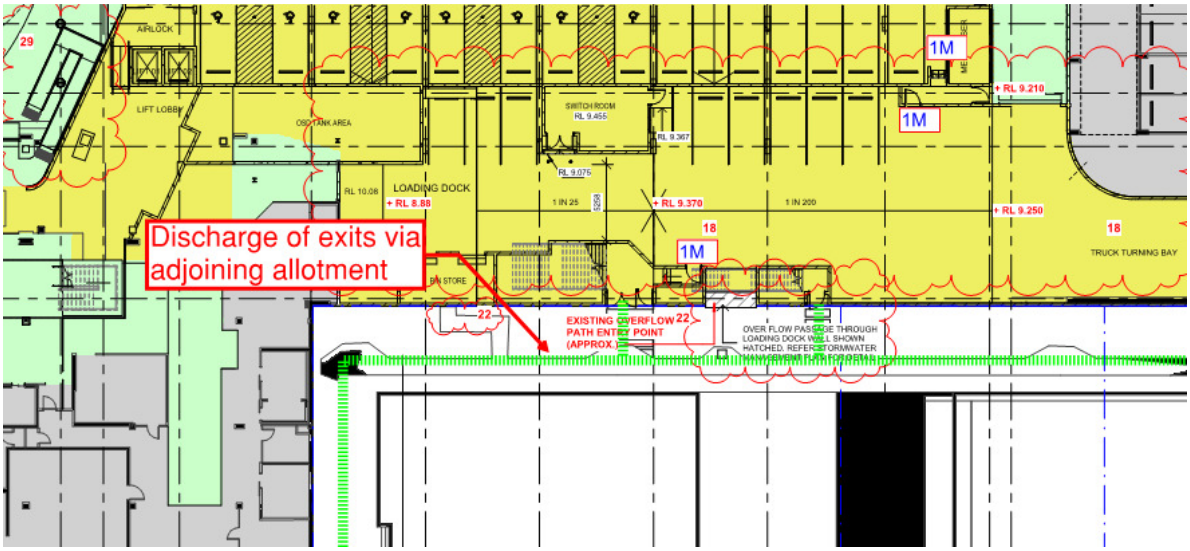
This clause requires that an exit must not be blocked at the point of discharge. Barriers such as bollards must be installed to prevent vehicles from blocking the discharge from exits.

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

*Comments: The discharge pathways from the proposed exit stairs serving the western side of the new building extension travel via the open space on the adjoining allotment to the roadway – as shown in the mark-up over page. This discharge pathway via the adjoining allotment is non-compliant with D1.10 as it requires the discharge path to the roadway from these exits to be unobstructed within the subject allotment.*

*In addition, it is noted that the two alternative pathways provided from these exits have a total clear width of 2m, however the width of the two exit stairs discharging into this area is 5m. This reduced width of the exit discharge path on the adjoining allotment is also non-compliant with D1.10(b).*

*Given the above non-compliance with D1.10, an alternative solution is required to be prepared by the fire engineer to address Performance Requirements DP4 and DP6.*




### 32. Clause D1.12 – Non-Required Stairways, Ramps or Escalators

This clause sets out the requirements for the application of non-required exits and the circumstances under which they may be utilised. Clause D1.12 only applies to escalators, moving walkways and travelators, non-required non-fire-isolated stairways and non-required non-fire-isolated ramps.

A non-required stairway cannot be used to connect patient care areas in a Class 9a building or resident use areas in a Class 9c building.

*Comments: The existing travelators connect 2 storeys only and are considered compliant with the above requirements of D1.12.*

### 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 Altis Architects, Dee Why RSL and Census Advisory (per email dated 30.5.16 and Zoning Plan Sk-77 Rev C dated 16.05.2017):*

- *Basement Levels -5 to -1 = 60 persons*
- *New Carpark Level 1 = 55 persons*
- *Club Offices & Loading Dock Carpark Level 1 – 73 persons*
- *Existing Carpark Level 1 (north) = 80 persons*
- *Existing Carpark Level 1 (south) = 30 persons*
- *New Carpark Level 2 = 20 persons*
- *Existing Carpark Level 1B (north) = 80 persons*
- *Existing Carpark Level 2 (south) = 30 persons*
- *Club Level 2 = 2,422 persons*
- *Level 3 – 1,095 persons (existing)*

*Note: No assessment of the existing Northern Carpark, the Level 1 AMF Bowling Centre or Levels 4 have been carried as no works are proposed that impact on these portions of the building.*

### 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 is readily achievable.*

### 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 D2.9 – Width of Required Stairways and Ramps

A required stairway or ramp that exceeds 2m in width is counted as having a width of only 2m unless it is divided by a handrail, balustrade or other barrier continuous between landings and each division has a width of not more than 2m.

*Comments*: *The fire isolated stairway in the south-west corner of the Club Levels is required to be provided with a dividing handrail for the egress width to be counted as more than 2m. In this regard, the unobstructed width between the dividing handrail and the outer handrails shall be no less than 1.5m on each side.*

### 39. 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.*

### 40. 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 comply with the dimension requirements of Table D2.13 below and have solid risers, and are to have contrasting nosings, slip resistant surfaces throughout in accordance with clause 11 of AS1428.1-2009. (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 |

*Note: A review of the existing exit stairs serving Level 1B of the south carpark will be required to be carried to confirm if the stairs complies with the above requirements prior to the CC Application being submitted. Where significant dimensional variations are found suitable rectification works to achieve compliance with Table D2.13 will be required to be included on the CC Application plans.*

### 41. 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 that 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.*

### 42. 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.*

### 43. 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 eth 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 1: If the proposed fire stairs in the building 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. Note 2: The balustrade to existing egress stair and the perimeter balustrade on Level 1B of the existing southern carpark will need to be reviewed and upgraded to comply with the requirements of this clause.*

### 44. 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. Each fire isolated stair is required to be provided with at least 1 handrail that complies with Clause 12 of AS1428.1-2009; 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). Note: The handrail to the existing exit stair from Level 1B of the south carpark will need to be upgraded to comply with D2.17 and AS 1428.1-2009 – details are to be included on the CC Application plans.*

### 45. 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 200m$^2$).

*Comments*: *Compliance with the requirements of this clause is readily achievable. Note: Horizontal Exit Doors in the Fire Wall on Carpark Level 1 are required to swing in the direction of egress from the Loading Dock.*

### 46. 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 Level 2.*

### 47. 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):*


## *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 building extension (except those areas exempted under D3.4 - see notes below).*

### 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.

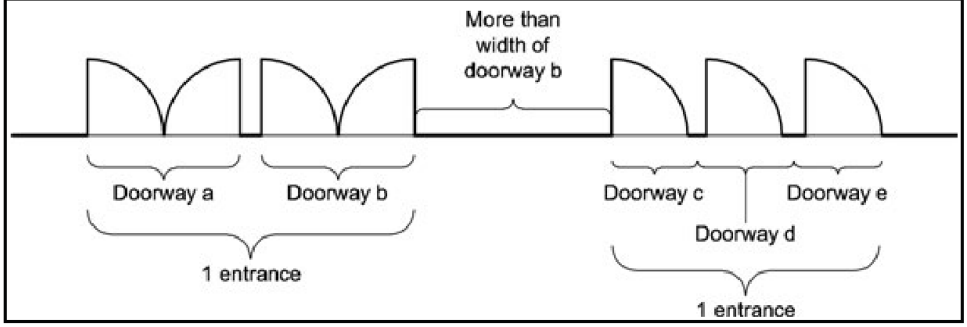
Accessways are to be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link.

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.

**Figure D3.2**

**DOORWAYS AND PEDESTRIAN ENTRANCES FOR ACCESS PURPOSES**




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 entries on Carpark Level 1 and Level 2 (existing) via a compliant accessway from both Clarence Ave (Carpark Level 1) and Pittwater Rd (Level 2). In this regard compliance is readily achievable in relation to the proposed new entry ramp on Carpark Level 1 and as no works are proposed on Level 2 the existing accessible ramp is considered adequate subject to the provision of compliant tactile ground surface indicators per D3.8 below – 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.*

*Note: It is understood that no accessible parking spaces are proposed on Level 1B of the existing south carpark and as such compliant lift access to this level will not be required.*

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

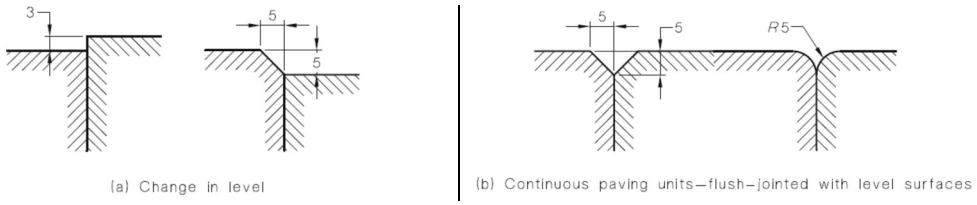
This part specifies the requirements for accessways within buildings which must be accessible.

*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.*

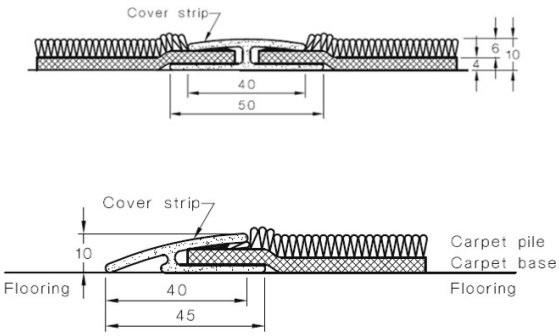
*Accessways and Doors*

- *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 new parts of the Club and the accessible pathways in the existing areas) 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.*
- *New Internal surfaces are to comply with Section 7 of AS1428.1-2009.*
- *New 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:*



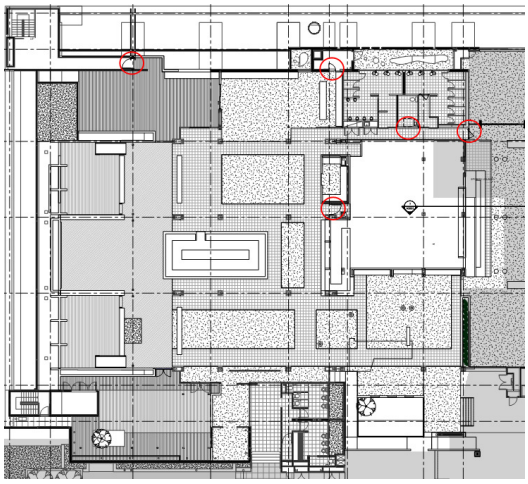

Source – Section 7.2 of AS1428.1-2009

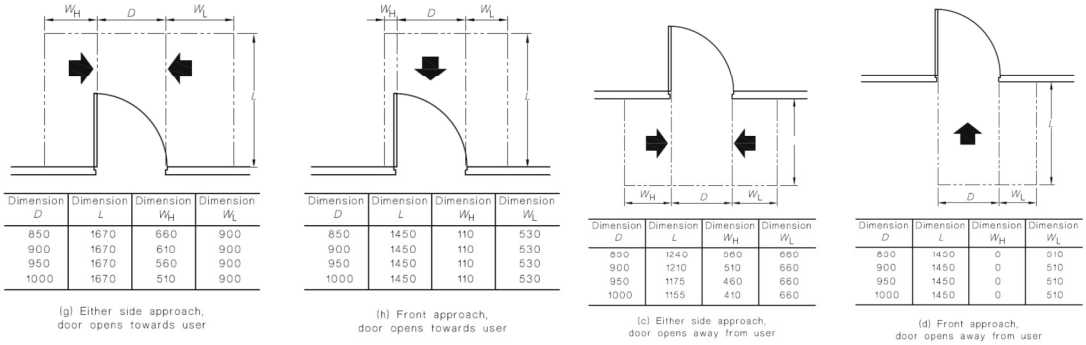
- *Any proposed carpets within the building are to have a pile height or pile thickness not exceeding 11mm and the carpet backing thickness shall not exceed 4mm (total thickness shall not exceed 15mm).*




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 requirements below. We note that there are non-compliant doors currently shown on the plans in the north-eastern portion of Level 2 that will require modification to the design or an alternative solution from the Access Consultant – see mark-ups below:*





| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1670 | 660 | 900 |
| 900 | 1670 | 610 | 900 |
| 950 | 1670 | 560 | 900 |
| 1000 | 1670 | 510 | 900 |

(g) Either side approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1450 | 110 | 530 |
| 900 | 1450 | 110 | 530 |
| 950 | 1450 | 110 | 530 |
| 1000 | 1450 | 110 | 530 |

(h) Front approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1240 | 560 | 660 |
| 900 | 1210 | 510 | 660 |
| 950 | 1175 | 460 | 660 |
| 1000 | 1155 | 410 | 660 |

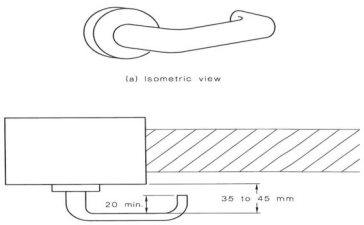
(c) Either side approach, door opens away from user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1450 | 0 | 510 |
| 900 | 1450 | 0 | 510 |
| 950 | 1450 | 0 | 510 |
| 1000 | 1450 | 0 | 510 |

(d) Front approach, door opens away from user

*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:*

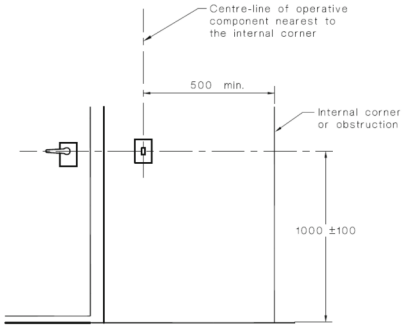
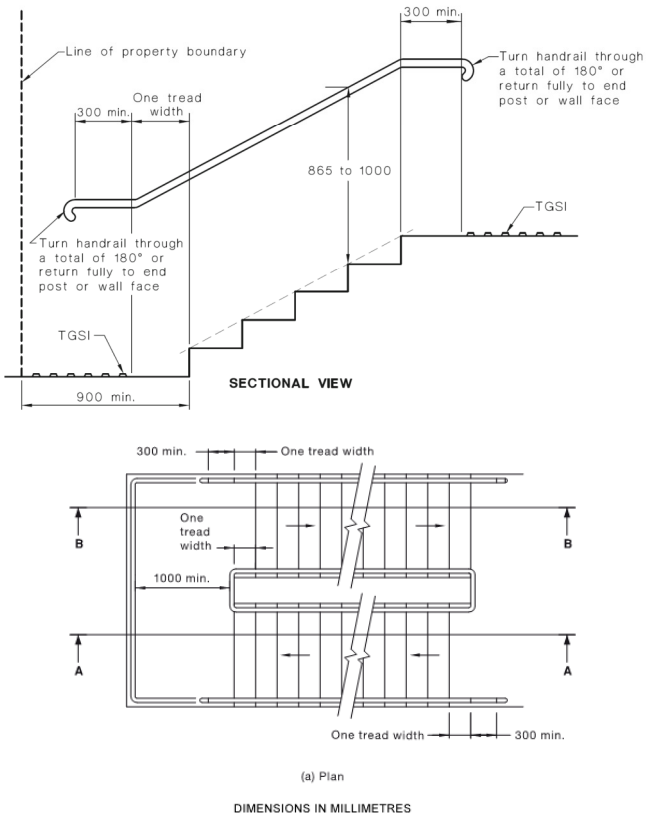



FIGURE 37 HEIGHTS FOR SWITCHES AND DOOR HANDLES

Source – Section 14.2 of AS1428.1-2009

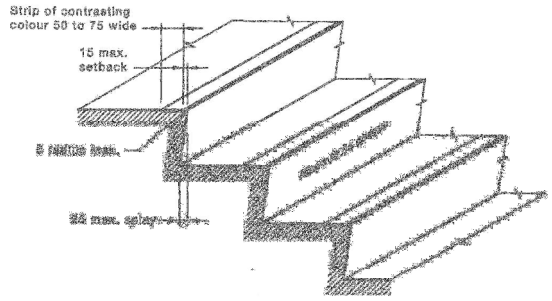
*Stairways & Ramps*

+ *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):*



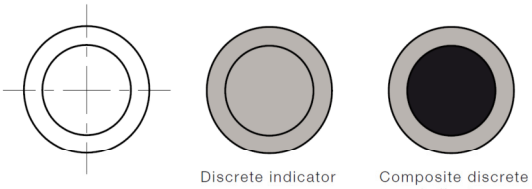

NOTE: A chamfered nosing 5 x 5 may be used.

DIMENSIONS IN MILLIMETRES

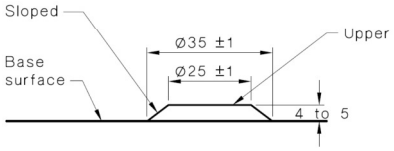
FIGURE 27(A) A TYPICAL STAIR NOSING PROFILE WITH NOSING STRIP

*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



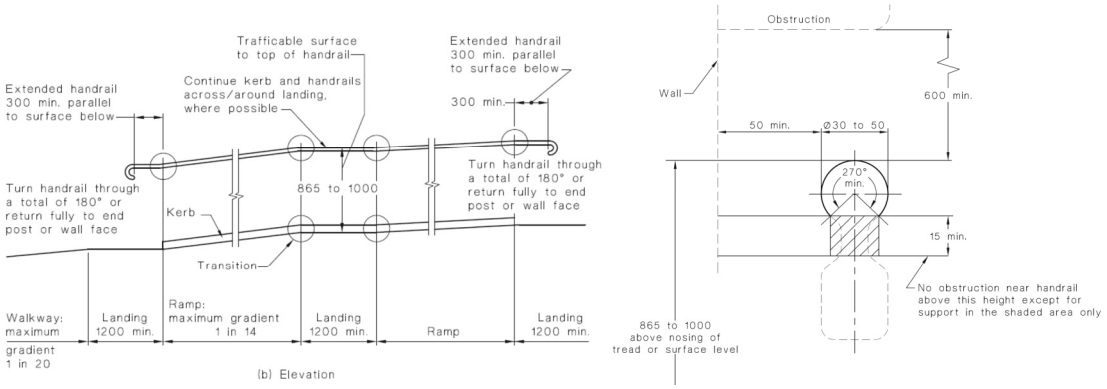

(b) Elevation of individual truncated cone

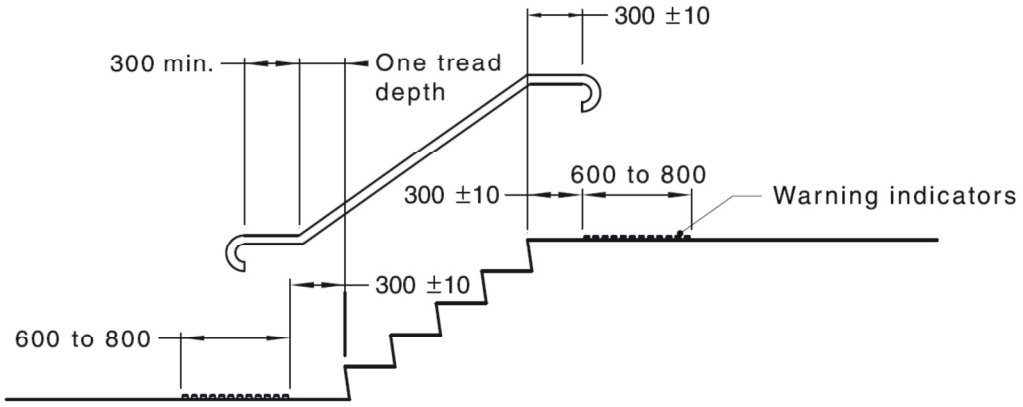
Source – Section 6.1 of AS1428.4-1992

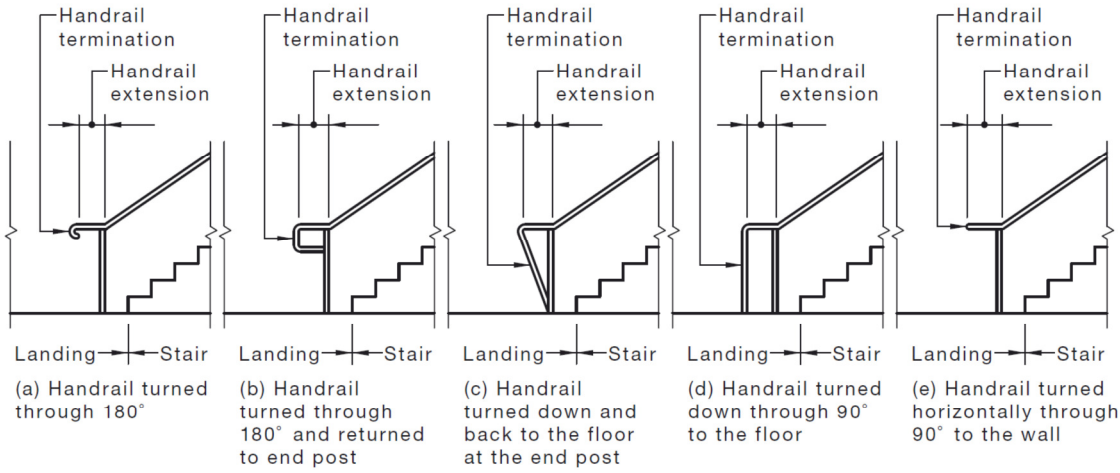
+ *Ramps must be designed in accordance with Clause 10.3 of AS 1428.1-2099 with a maximum gradient of 1:14, landing at 9m intervals, compliant handrails/kerb rails and appropriate circulation space at landings where there is a change of direction and at the discharge level per Figure 14.*

*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.*



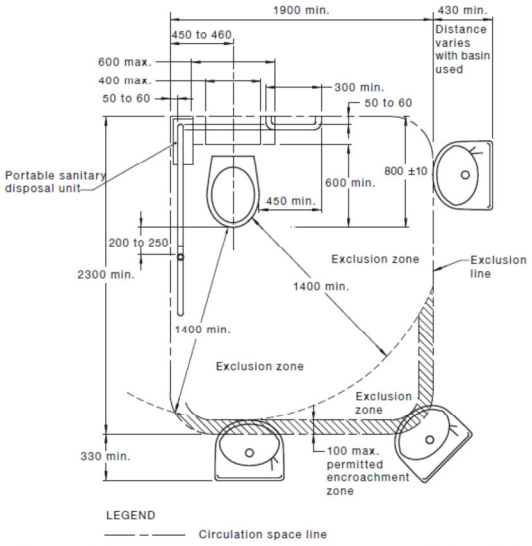




Source – Section 11.1 and 12 of AS1428.1-2009

*Accessible & Ambulant Toilets*

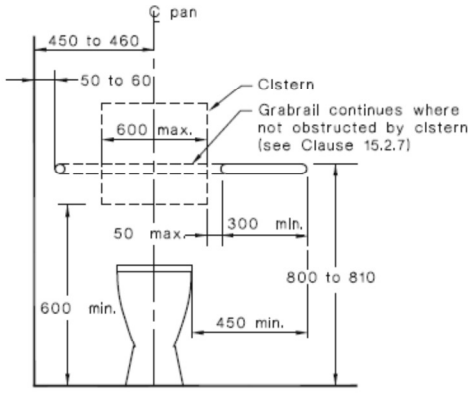
+ The size and scale (including the fixtures contained therein) of unisex accessible sanitary facility is required to comply with Section 15 of AS1428.1-2009:




NOTE: This circulation space may overlap any other circulation spaces specified in this Standard.

DIMENSIONS IN MILLIMETRES

FIGURE 43 CIRCULATION SPACE FOR WC PAN—RIGHT-HAND TRANSFER (LEFT-HAND TRANSFER IS MIRROR REVERSED)



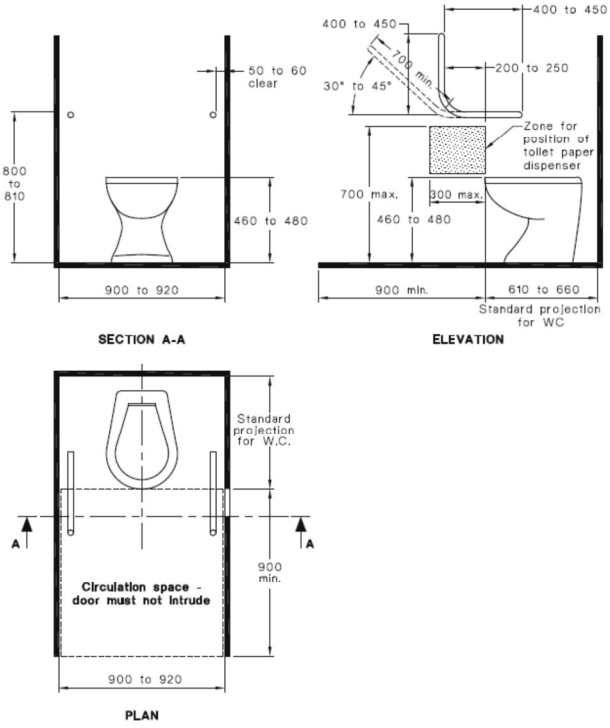

(b) Grabrail at back of pan and sectional view of grabrail at side of pan

DIMENSIONS IN MILLIMETRES

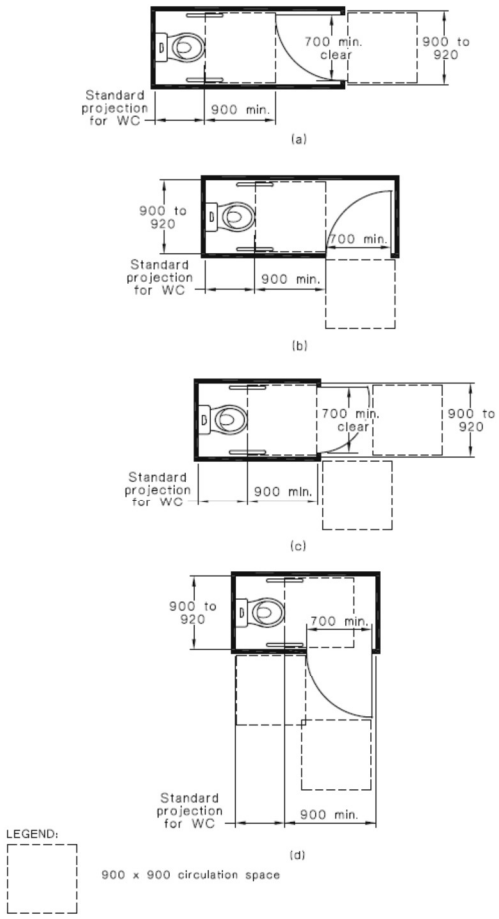
FIGURE 42 POSITIONS OF GRABRAILS IN WATER CLOSETS

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



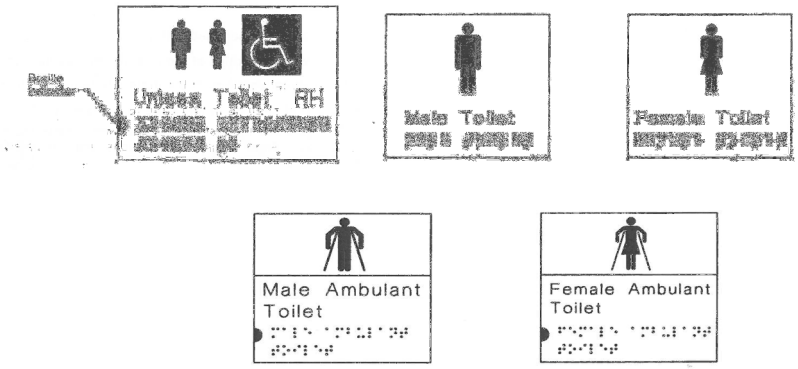

DIMENSIONS IN MILLIMETRES

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 o 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 be Dee Why RSL at the CC Application, 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 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:*

+ *1 accessible compliant space per 50 parking spaces provided on site.*

*Note: Compliance is readily achievable in this regard.*

### 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 areas on Level 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*: *The existing building is currently served by a hydrant system that is identified in the Annual Fire Safety Statement as being compliant with AS 2419.1-1996 and Ordinance 70/Ministerial Spec. 10. The location of the existing booster assembly is directly adjacent to the existing building facing Pittwater Rd and is not within site of the main entry – nor orientated to face the street. It is also noted that the booster is located within 10m of the building and is not protected in accordance with Clause 7.3 of AS 2419.1-2005.*

*The existing hydrant system will be required to be upgraded to comply with the current requirements of AS 2419.1-2005 – further advice from the fire engineer and a fire services/hydraulic consultant will be required in this regard.*

*Note 1: As the booster is to be retained in its current location it will be the subject of an Alternative Solution addressing Performance Requirement EP1.3.*

*Note 2: The upgraded hydrant system will also need to serve the existing south carpark on both Level 1 and Level 1B in accordance with AS 2419.1-2005.*

### 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.

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*: *The new Club extension and Carpark levels (including the existing southern carpark that is proposed to be retained) 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 provision of a new system of fire hose reels to the new portions of the building, and a separate plan shall be provided that details coverage by the existing fire hose reels to the north-eastern portion of Level 2 in accordance with AS2441-1998.*

### 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: The existing building is sprinkler protected in the Club areas only and is not provided within a sprinkler system in the AMF Bowling Centres and the Open Deck carparks.*

*A sprinkler system is required to be provided within the new carpark levels and the existing northern carpark as they contain more than 40 parking spaces and do not meet the definition of an open deck carpark. In addition, the new Level 2 Club extension is required to be sprinkler protected (as the existing building is sprinkler protected).*

*Note 1: Due to the proximity of the existing southern carpark to the proposed new building, AS2118.1 requires sprinklers to be provided to the existing carpark OR the new carpark must be provided with a fire rated external wall with an FRL of -/30/30 to the southern side of the building.*

*Note 2: The Fire Services Engineer has also proposed alternative solutions relating to the distance between ceiling and sidewall sprinklers on Level 2 where the sliding roof is proposed and dry sprinkler heads and supply to the lift shaft.*

### 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 Building and the new carpark building are required to be served by Portable Fire Extinguishers in accordance with Table E1.6.*

### 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 floor area of the total building exceeds 18,000m² a fire control centre is required to be provided for the site in accordance with Clauses 2-5 of Spec. E1.8.*

*It is noted that the main FIP is currently located in the existing Club area on Level 2 with a Sub-FIP in the foyer area accessed via the Pittwater Rd entry. It is understood that the Fire Control Centre (FCC) for the building will be relocated to the main foyer and the access to this location necessitates a change in level exceeding 300mm from the road. This non-compliance with the access to the new FCC location is to be included in the Fire Engineering Report as an Alternative Solution addressing Performance Requirement EP1.6.*

## *PART E2 SMOKE HAZARD MANAGEMENT*

### 62. 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: The Annual Fire Safety Statement & current Fire Safety Schedule (Appendix 3) identifies that the existing building is served by a smoke detection and alarm system, and a smoke exhaust system, in addition to the provision of a sprinkler system (as identified under E1.5 above). Table E2.2b requires the Class 9b portions of the building to be provided with a smoke exhaust system (or smoke and heat vents) in addition to the sprinklers, as well as automatic shutdown of all mechanical ventilation systems.*

*It is noted that the provision of smoke hazard management systems within both the proposed and existing club areas will be the subject of an alternative solution from the fire engineer to address Performance Requirement EP2.2 in association with the egress assessments identified above. In this regard consideration will need to be given to the proposed operable roof structures over the new bar area in the north-eastern portion of Level 2 and the central portion of Level 2. Details as to the operation of the operable roof structures in fire mode will need to be included in the alternative solution.*

*There are no smoke hazard management provisions applicable to the existing and new Carpark levels other than the provision of stair pressurisation to the two fire stairs serving the basement levels (-1 to -5) and any fire isolated stairs serving the club levels that contains more than 2 doors into a single exits stair.*

*Note: The requirements of Table E2.2a for carparks will need to be included in the design having regard to fan blades and non-fire rated cabling.*

## *PART E3 LIFT INSTALLATIONS*

### 63. Clause E3.2 – Stretcher Facility in Lifts

Stretcher facilities in lifts are required in a building with an effective height that exceeds 12m and within required emergency lifts (in buildings with an effective height of greater than 25m). A stretcher lift must accommodate a raised stretcher by providing a clear horizontal space of 600mm wide x 2000mm long x 1400mm high.

*Comment: As the effective height of the building exceeds 12m at least one stretcher lift is required in the building. Details of the proposed stretcher lift are to be included on the CC plans.*

### 64. 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.*

### 65. Clause E3.5 – Landings

Access & Egress to and from lift well landings must comply with the requirements of Section D – refer to relevant requirements above.

*Comments: Compliance is readily achievable.*

### 66. 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.*

***EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS***

**67. 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 Construction Certificate application.*

**68. 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 form 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 Construction Certificate application.*

**69. 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 Construction Certificate application.*

**70. 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 Construction Certificate application.*

**71. 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*: *The existing building is provided with an EWIS system (as indicated on the Annual Fire Safety Statement) and given the floor area and rise in storeys of the Class 9b Club areas a sound system and intercom system is required to be provided throughout the building extension and the new 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.***

**72. 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.*

**73. 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.*

### 74. 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.*

### 75. Clause F1.13 – Glazed 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*

### 76. 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 (populations referenced below):

- *Basement Levels -5 to -1 = 60 persons*
- *New Carpark Level 1 = 55 persons*
- *Club Offices & Loading Dock Carpark Level 1 – 73 persons*
- *Existing Carpark Level 1 (north) = 80 persons*
- *Existing Carpark Level 1 (south) = 30 persons*
- *New Carpark Level 2 = 20 persons*
- *Existing Carpark Level 1B (north) = 80 persons*
- *Existing Carpark Level 2 (south) = 30 persons*
- *Club Level 2 = 2,422 persons*
- *Level 3 – 1,095 persons (existing)*

### 77. 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 building that are subject to alterations/extension have been calculated as follows, based upon the population umbers detailed in D1.13 above:*

- *Level 2 – Patrons: Male: 7 WC's, 10 Urinals, 7 Wash Basins (Complies); and Female: 11 WC's, 8 Wash Basins (Complies); Staff: Male: 3 WC's, 3 Urinals, 2 Wash Basins (Complies); and Female: 4 WC's, 2 Wash Basins (Complies).*

*Note 1: Compliance with the above requirements is readily achievable and is adequately included in the proposed design.*

*Note 2: As the new Carpark portions of the Building are ancillary to the Club facility additional sanitary facilities within these areas per Table F2.3 are not considered to be required.*

### 78. 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 disable 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 are 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 Level 2, 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.*

### 79. 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*

### 80. 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.

*Comments: Compliance is readily achievable.*

*Note: The basement carpark levels 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.*

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

## *PART F4 LIGHT AND VENTILATION*

### 81. 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.*

### 82. 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*: *Design documentation shall be provided from the mechanical consultant for all ventilation to the building with the Construction Certificate documentation.*

### 83. 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*: *Compliance is readily achievable.*

### 84. Clause F4.9 – Airlocks

If a room containing a closet pan or urinal is prohibited under F4.8 form 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.*

### 85. 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.*

*Note: Mechanical Consultant to confirm if carpark exhaust is required within Level 1 of the existing south carpark.*

### 86. 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 areas within the building.*

## SECTION G – ANCILLARY PROVISIONS

### *PART G1 MINOR STRUCTURES AND COMPONENTS*

### 87.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.*

### *PART G3 ATRIUM CONSTRUCTION*

#### 88. Clause G3.2 – Application of Part

An Atrium must comply with the additional fire safety requirements of Clause G3.2 to G3.8 if it connects greater than 2 storeys in a non-sprinkler protected building OR greater than 3 storeys in a sprinkler protected building.

*Comments: As the void over the main lobby area on Carpark Level 1 inter-connects with Level 2 above and the travelator void to Levels 3 above it is considered that this opening inter-connects 3 levels in the building. The building is sprinkler protected throughout as a result of the proposed extension, with the exception of the AMF Bowling Centre on Carpark Level 1. Given this lack of sprinkler protection to this portion of the building an alternative solution is required to be prepared by the fire engineer so as to not apply the additional requirements of Clauses G3.2 to G3.8. In this regard, the relevant Performance Requirements are CP1, CP2, DP4, EP1.4 & EP2.2.*

## SECTION J – ENERGY EFFICIENCY

#### 89. 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: The requirements of Part J1 are applicable to the proposed new extension and alterations and façade modifications to the existing building only. It is recommended that advice be sought from an ESD Consultant in this regard at the CC Application stage. It is noted that the proposed openable roofs located in the north-eastern portion (Grid 2/3-C-E) on Level 2 will not comply with the provisions of Clause J1.4 and are proposed to be addressed as an alternative solution by the ESD Consultant.*

#### 90. 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: The requirements of Part J2 are applicable to the proposed new extension and alterations and façade modifications to the existing building only. It is recommended that advice be sought from an ESD Consultant in this regard at the CC Application stage.*

#### 91. 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: The requirements of Part J3 are applicable to the proposed new extension and alterations and façade modifications to the existing building only. It is recommended that advice be sought from an ESD Consultant in this regard at the CC Application stage.*

## 92. 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: The requirements of Part J5 are applicable to new mechanical ventilation systems only. It is recommended that advice be sought from a Mechanical Consultant in this regard at the CC Application stage.*

## 93. 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: The requirements of Part J6 are applicable to new electrical and lighting systems only. It is recommended that advice be sought from an Electrical Consultant in this regard at the CC Application stage.*

## 94. Part J7 – Heated 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: The requirements of Part J7 are applicable to new hot water systems only. It is recommended that advice be sought from a Hydraulic Consultant in this regard at the CC Application stage.*

## 95. Part J8 – Facilities for Energy Monitoring

Provision for monitoring of energy consumption must be provided to a building where the floor area exceeds 500m², and must be capable of recording the consumption of gas and electricity. In addition, where the floor area of the building exceeds 2,500m² the energy monitoring facilities must be capable of individually recording air-conditioning, lighting, appliance power, central hot water supply, lifts/escalators, and other ancillary plant.

*Comments: The requirements of Part J8 are applicable to all new electrical metering systems in the building. It is recommended that advice be sought from an Electrical Consultant in this regard at the CC Application stage.*

# E. CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed Club Extension, alterations and new Carpark areas and retention of the existing southern carpark 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 applicable to the proposed extension of the building (new works). Note: The measures included and the standards of performances nominated below may vary as a result of the proposed fire engineered alternative solutions. In addition, the most recent Fire Safety Schedule applicable to the existing building is attached as Appendix 3 to this Report – issued with Occupation Certificate OC-16102. The standards of performance of the existing fire safety measures that are to be retained in the unaffected parts of the building are required to be referenced in the FEBQ/FER by the Fire Engineer.

| Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|
| Access Panels, Doors & Hoppers | BCA Clause C3.13 & AS 1530.4 - 2014 |
| Alarm Signaling Equipment | AS1670.3 – 2004 |
| Automatic Fire Detection & Alarm System | BCA Spec. E2.2a & AS 1670.1 – 2015 & AS/NZS 1668.1 - 2015 |
| 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 – 2015<br>BCA Spec E1.5 Clause 8 and/or Clause 3.22 of AS1670.1-2015 |
| 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 Dampers | BCA Clause C3.15, AS 1668.1 - 2015 & AS 1682.1 & 2 – 2015 |
| Fire Doors | BCA Clause C2.12, C2.13, C3.2, C3.4, C3.5, C3.6 & C3.7, C3.8, and AS 1905.1 – 2015 |
| 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 – 2014 & 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 - 2015 & AS 1668.2 – 2012 |
| Paths of Travel | EP & A Regulation Clause 186 |
| Portable Fire Extinguishers | BCA Clause E1.6 & AS 2444 – 2001 |
| Smoke Hazard Management Systems (including Smoke Exhaust to Club Levels & Stair Pressurisation to Basement Carpark Fire Stairs) | BCA Part E2 & AS/NZS 1668.1 – 2015 |
| Sound System & Intercom System for Emergency Purposes | BCA Clause E4.9 & AS 1670.4 – 2015 & AS4428.4 – 2004 |
| Stretcher Lift | BCA Clause E3.2 |

| Essential Fire and Other Safety Measures | Standard of Performance |
|---|---|
| Warning & Operational signs | Section 183 of the EP & A Regulations 2000, AS 1905.1 - 2015, BCA Clause D3.6, D2.23, E3.3 |

# 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 7b/8 | 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 | 240/240/240 | 120/120/120 | 180/180/180 |
| 1.5 to less than 3 m | 240/240/180 | 120/ 90/ 90 | 180/180/120 |
| 3 m or more | 240/180/ 90 | 120/ 60/ 30 | 180/120/ 90 |
| For non- loadbearing parts— | | | |
| less than 1.5 m | –/240/240 | –/120/120 | –/180/180 |
| 1.5 to less than 3 m | –/240/180 | –/ 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 | 240/–/– | 120/–/– | 180/–/– |
| 3 m or more | –/–/– | –/–/– | –/–/– |
| **COMMON WALLS and FIRE WALLS—** | 240/ 240/ 240 | 120/120/120 | 180/180/180 |
| **INTERNAL WALLS—** | | | |
| Fire-resisting lift and stair shafts— | | | |
| Loadbearing | 240/ 120/ 120 | 120/120/120 | 180/120/120 |
| Non- loadbearing | –/120/120 | –/120/120 | –/120/120 |
| Bounding public corridors, public lobbies and the like— | | | |
| Loadbearing | 240/-/- | 120/–/– | 180/–/– |
| Non- loadbearing | –/–/– | –/–/– | –/–/– |
| Between or bounding sole-occupancy units— | | | |
| Loadbearing | 240/-/- | 120/–/– | 180/–/– |
| Non- loadbearing | –/–/– | –/–/– | –/–/– |
| Ventilating, pipe, garbage, and like shafts not used for the discharge of hot products of combustion— | | | |
| Loadbearing | 240/120/120 | 120/ 90/ 90 | 180/120/120 |
| Non- loadbearing | –/120/120 | –/ 90/ 90 | –/120/120 |

| Building element | Class of building — FRL: (in minutes) | | |
|---|---|---|---|
| | Structural adequacy/ Integrity/ Insulation | | |
| | Class 7b/8 | Class 5, 7a & 9 | Class 6 |
| **OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES** | | | |
| **and COLUMNS—** | 240/–/– | 120/–/– | 180/–/– |
| **FLOORS** | 240/240/240 | 120/120/120 | 180/180/180 |
| **ROOFS** | 240/ 90/ 60 | 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***

***BETWEEN 0-M AND 3M FROM BOUNDARY*** ***60/60/60***
3m or more from boundary -/-/-

**External Walls *Non-loadbearing***

***BETWEEN 0-M AND 3M FROM BOUNDARY*** ***-/60/60***
3m or more from boundary -/-/-

**Service Shafts** (loadbearing) 60/60/60

**Service Shafts** (non-loadbearing) -/60/60

**Other Loadbearing Internal Walls, Beams, Trusses and Columns.** 60/-/-

**Floors** 60/60/60

*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.

## G. APPENDIX 2

### TABLE 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS

| Building element | Class of building—FRL: (in minutes) | | | |
|---|---|---|---|---|
| | ***Structural adequacy*/ *Integrity*/ *Insulation*** | | | |
| | **2, 3 or 4 part** | **5, 7a or 9** | **6** | **7b or 8** |
| **EXTERNAL WALL** (including any column and other building element incorporated therein) or other external building element, where the distance from any *fire-source feature* to which it is exposed is— | | | | |
| Less than 1.5 m | 90/ 90/ 90 | 90/ 90/ 90 | 90/ 90/ 90 | 90/ 90/ 90 |
| 1.5 to less than 3 m | –/–/– | 60/ 60/ 60 | 60/ 60/ 60 | 60/ 60/ 60 |
| 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 1.5 m | 90/–/– | 90/–/– | 90/–/– | 90/–/– |
| 1.5 to less than 3 m | –/–/– | 60/–/– | 60/–/– | 60/–/– |
| 3 m or more | –/–/– | –/–/– | –/–/– | –/–/– |
| **COMMON WALLS and FIRE WALLS—** | 90/ 90/ 90 | 90/ 90/ 90 | 90/ 90/ 90 | 90/ 90/ 90 |
| **INTERNAL WALLS-** | | | | |
| Bounding *public corridors*, public lobbies and the like— | 60 / 60/ 60 | –/–/– | –/–/– | –/–/– |
| Between or bounding *sole-occupancy units*— | 60/ 60/ 60 | –/–/– | –/–/– | –/–/– |
| Bounding a stair if *required* to be rated— | 60/ 60/ 60 | 60/ 60/ 60 | 60/ 60/ 60 | 60/ 60/ 60 |
| **ROOFS** | –/–/– | –/–/– | –/–/– | –/–/– |

# H. APPENDIX 3 – MOST RECENT FIRE SAFETY SCHEDULE

FIRE SAFETY SCHEDULE

*Issued under Clause 168 of the Environmental Planning & Assessment Regulation 2000*

| | |
|---|---|
| **OWNER:** | Dee Why RSL Club Ltd |
| **ADDRESS:** | 932 Pittwater Road, Dee Why |
| **DEVELOPMENT APPLICATION NO.:** | DA2015/0603 |
| **CONSTRUCTION CERTIFICATE NO.:** | CC-16005 |
| **OCCUPATION CERTIFICATE NO.:** | OC-16102 |

## SCHEDULE

| Statutory Fire Safety Measure | Design / Installation Standard | Existing |
|---|---|---|
| Automatic Fail Safe Devices | BCA D2.19, D2.2 | ✓ |
| Automatic Fire Detection & Alarm System | Fire Safety Engineering Report by SSL#XR05004/R1 dated 28.08.2001, AS 2118.1-1999 and rev V1-0 dated 18.09.2007, BCA Clause E2.2a, table E2.2a, NSW table E2.2b/AS 1670-1995 | ✓ |
| Automatic Fire Suppression Systems levels 1-4 (excluding AMF Bowling Centre) | Fire Safety Engineering Report by SSL#XR05004/R1 dated 28.08.2001, AS 2118.1-1999 and rev V1-0 dated 18.09.2007 | ✓ |
| Emergency Warning & Intercommunication System (EWIS) | BCA Clause E4.9 (e) / AS1670-2004 / AS4428.4-2004 and rev V1-0 dated 18.09.2007 | ✓ |
| Fire Alarm Monitoring | AS 4428.6-1997, AS 3013-1995 | ✓ |
| Emergency Lighting | BCA Clause E4.2, E4.4 / AS 2293.1-1988 | ✓ |
| Emergency Evacuation Plan | Fire Safety Engineering Report by SSL #XR0504/R1 dated 28.08.2001 & AS 3745-2002 | ✓ |
| Exit Signs | BCA Clauses E4.5, E4.6, E4.8 & AS 2293.1-1988 | ✓ |
| Fire Control Centre | Fire Safety Engineering Report by SSL #XR0504/R1 dated 28.08.2001 & BCA Spec E1.8 | ✓ |
| Fire Dampers | AS 1668.1 and AS 1682.2 | ✓ |
| Fire Doors | BCA Clause C3.8/BCA Spec C3.4 / AS 1905.1-1997 | ✓ |
| Fire Hose Reels | BCA Clause E1.4 / AS 2441-1988 | ✓ |
| Fire Hydrant Systems | BCA Clause E1.3 / Clause 27.3, Ord 70 Ministerial Spec # 10 / AS 2419.1-1996 | ✓ |

| Statutory Fire Safety Measure | Design / Installation Standard | Existing |
|---|---|---|
| Fire Seals protecting openings in fire resisting components of the building | BCA Clause C3.15, Spec C3.15 and manufactures spec / AS 4072.1-2005 & AS 1530.4-2005 Fire Engineering Report by SSL#XR0504/R1 dated 28.09.2001. | ✓ |
| Lifts | AS 1735, Part 2. Section 29, 32 & 23 | ✓ |
| Lightweight Construction | Fire Engineering Report by SSL#XR0504/R1 dated 28.08.2001 7 Rev V1-0 dated 18.08.2007, BCA spec C1.8 and manufactures spec | ✓ |
| Mechanical Air Handling Systems/Smoke Control | BCA NSW Table E2.2b / manufactures Spec / AS 1668.1-1998 | ✓ |
| Paths of Travel stairways, passageways or ramps | Fire Safety Engineering Report by SSL#27005-ce dated 04.07.2005 and Addendum 1 dated 18.09.2007 / Clause 24 of ORD / BCA D1 & D2 | ✓ |
| Portable Fire Extinguishers | BCA Clause E1.6 / AS 2444-2001 | ✓ |
| Sliding (auto) exit doors | Fire Safety Engineering Report by SSL#27005-ce, dated 04.07.2005 / BCA s D1.2 & D1.9 | ✓ |
| Smoke exhaust system (level 2 extension +entry / Reception foyer) | Fire Safety Engineering Report by SSL#27005-ce dated 07.07.2005 / AS 1668.1-1998 | ✓ |
| Smoke exhaust system (café + gaming lounge adjacent areas) | Fire Safety Engineering Report by SSL#XR0504/R1 dated 28.08.2001 / BCA Spec E2.2b | ✓ |
| Warning & Operational Signs (Stair Notice) | BCA Clause D2.23 / Clause 183 of the EP&A Reg 2000 | ✓ |
| Fire Safety Engineering Report by SSL#XR0504/R1 dated 28.08.2001 | Fire Safety Engineering Report by SSL#XR0504/R1 dated 28.08.2001 | ✓ |
| Fire Safety Engineering Report by SSL#27005-ce, dated 04.07.2005 | Fire Safety Engineering Report by SSL#27005-ce, dated 04.07.2005 | ✓ |
| Alternative solution within the Fire Engineering Report prepared by Innova Services numbered 15230-R01 dated 01.09.2015 relating to:<br>+ Extended travel distances of 67m between alternative exits in lieu of 60m. | Fire Engineering Report prepared by Innova Services numbered 15230-R01 dated 01.09.2015 and BCA Performance Requirement DP4. | |