

# BCA Assessment Report

Maitland Gaol Redevelopment  
Maitland NSW

Prepared for:  
Maitland City Council

Revision 3  
14 September 2023



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## + Report Status

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+ To	Michael Trajkov
+ Attention	Murray Wood
+ From	Peter Keppie
+ Project No.	N220105
+ Date	14 September 2023
+ Revision	3

This statement has been prepared to verify that Blackett Maguire + Goldsmith Pty Ltd have undertaken a review of the architectural documentation that will accompany the Development Application (DA) to Maitland City Council for the proposed construction / refurbishment of Maitland Gaol against the Building Code of Australia 2022 (BCA).

## + Revision History

+ Revision	0	+ Date	02.12.2022
+ Status	Draft for review & comment		
+ Revision	1	+ Date	27.01.2023
+ Status	Final DA		
+ Revision	2	+ Date	31.07.2023
+ Status	Updated 2022 Final DA		
+ Revision	3	+ Date	14.09.2023
+ Status	Updated Final DA		

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## 1.0 Proposed Development

Maitland Gaol is the longest continuously operating correctional institution in New South Wales. The facility closed in 1998 and was converted to a tourism facility in 2000 under the management of Maitland City Council. In January 2022 the NSW State and Federal Governments announced a funding grant for the redevelopment of the Gaol to deliver a substantial part of its 2020 Development Plan including capital investment in a new activity hub with enhance access and connectivity, innovative interpretation, along with the provision of event infrastructure and boutique accommodation. The Maitland Gaol Redevelopment will be staged across three separate Development Applications consisting of:

### Development Application 1:

Redevelopment of the 'Store' building (Building 14) to provide:

- + A new ticketing office and gift store;
- + New administration office space;
- + Upgraded amenities;
- + Construction of DDA access, ramps and stairs;
- + Demolition of existing laundry; and
- + Construction of a new loading dock.

Redevelopment of the 'Gaol Staff / Warder's Amenities' building (Building 22) consisting of:

- + Demolition of Building 22;
- + Construction of a new café;
- + External and internal landscaping; and
- + Construction of enhanced access points.

Construction of new carpark

- + Construction of a 16 space car park including two accessible parking spaces;
- + Associated landscaping; and
- + Construction of accessible pathways.

### Development Application 2:

Refurbishment of the 'Lieutenant Governor and Governor's residences' (Buildings 2 and 3) to provide:

- + Boutique accommodation consisting of several guest rooms.

### Development Application 3:

Future works for the redevelopment of the 'Store' Building to provide:

- + Additional amenities;
- + Renovated theatre with bar, foyer, amphitheatre;
- + Renovated back of house; and
- + Construction of external DDA ramp.

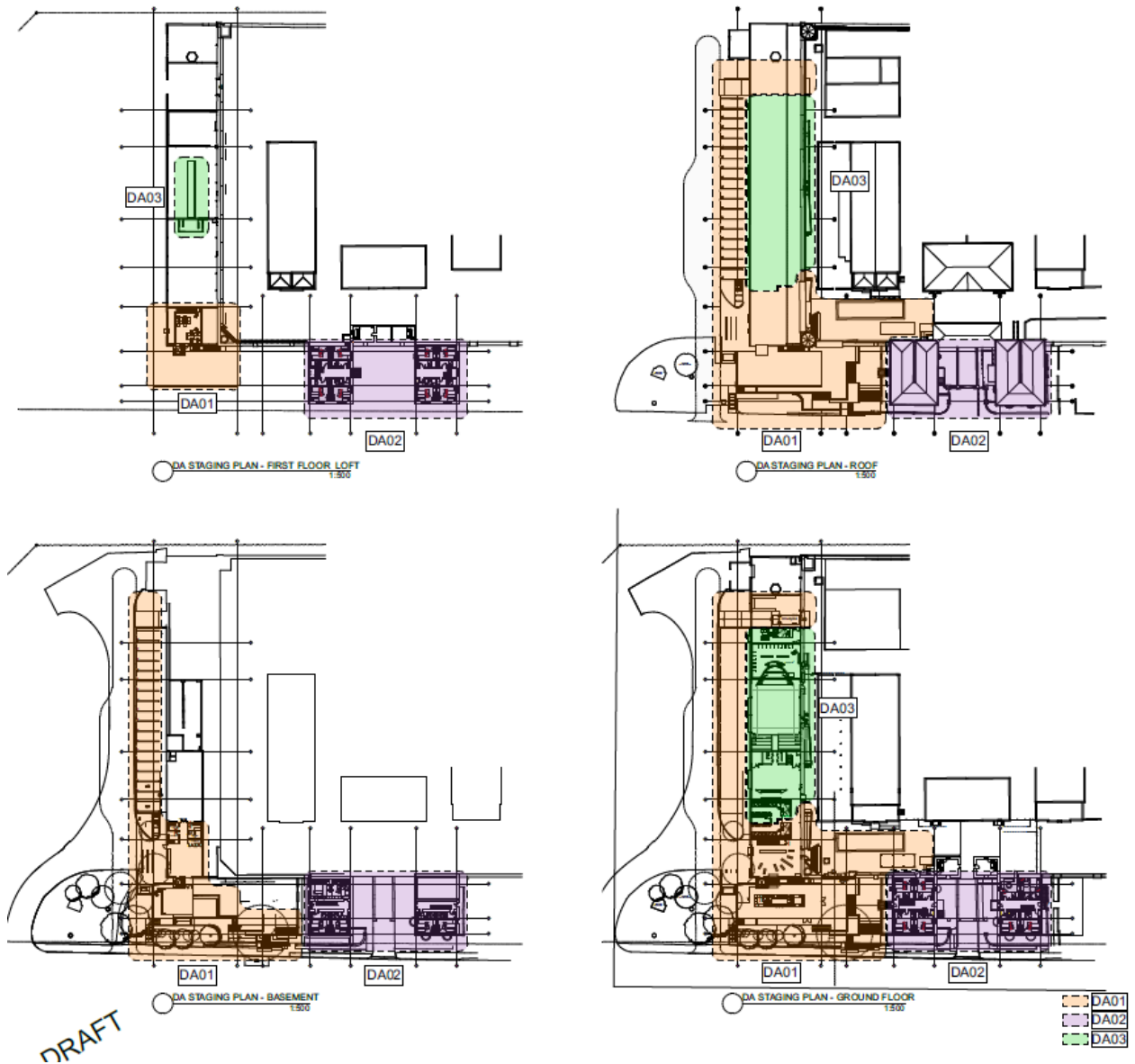


Figure 1: DA Staging Plan

## 1.1 Capability Statement Objectives

The objectives of this statement are to:

- + Confirm that the DA architectural documentation has been reviewed by an appropriately qualified Building Surveyor and Accredited Certifier.
- + Confirm that the proposed new building works can readily achieve compliance with the BCA pursuant to section 19 of the *Environmental Planning & Assessment (Development Certification & Fire Safety) Regulation 2021*.
- + Accompany the Development Application submission to enable the Consent Authority to be satisfied that subsequent compliance with the fire & life safety and health & amenity requirements of the BCA, will not necessarily give rise to design changes to the building which may necessitate the submission of an application under Section 4.55 of the *Environmental Planning and Assessment Act 1979*.

It should be noted that it is not the intent of this statement to identify all BCA provisions that apply to the subject development. The development will be subject further assessment following receipt of more detailed documentation at Construction Certificate stage.

This Statement is prepared in accordance with the Conflicts of Interest provisions of Part 4 of the Building and Development Certifiers Regulation 2020.

## 1.2 Relevant Version of the BCA

Pursuant to Section 19 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the day on which the application for the Construction Certificate is made. The current version of the BCA is BCA 2022. As the Construction Certificate application will be lodged after May 2022, this report assesses the design against compliance with the requirements of BCA 2022.

## 1.3 Regulatory Framework / BCA Fire Safety Upgrade Strategy

The proposed works include alterations and additions to the existing Maitland Gaol through primarily refurbishment works of the existing building however the scope of the project also include limited extensions and alterations to the existing building. The extent of works under the current stage of works is limited to the shaded areas shown below. The remainder of the buildings on the allotment are noted as not being impacted in this regard.

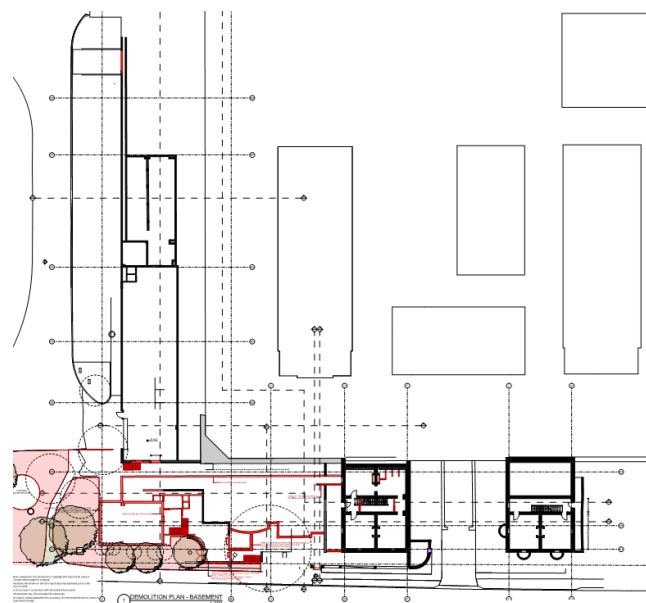


Figure 2

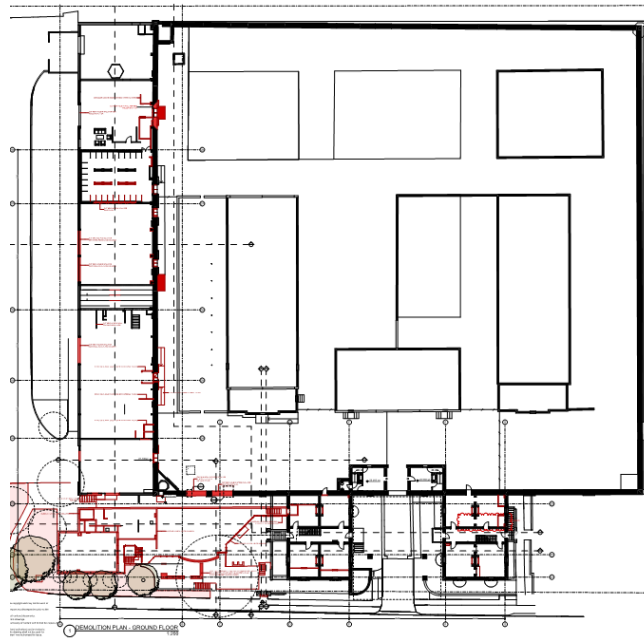


Figure 3

The relevant heads of consideration for building upgrade works have been outlined below having regards to the proposed works at the Maitland Goal.

### Environmental Planning And Assessment (Development Certification And Fire Safety) Regulation 2021

#### Part 3, Division 3 - Fire Rescue NSW (FRNSW) Referral Requirements

Pursuant to Division 3 EP&A (Development Certification and Fire Safety) Regulation 2021 - The proposed building work is subject to submission to FRNSW where any of the below apply;

- 1) Where a performance solution is proposed for a Category 2 fire safety provision—
  - (b) a building, having a fire compartment with a floor area of more than 2,000 square metres,
  - (c) a building, having a floor area of more than 6,000 square metres.
- 2) A performance solution is proposed to address performance requirement set out in CP2 in Volume 1 of the Building Code of Australia, to the extent that it relates to external combustible cladding, and
- 3) Building work involving the erection of a class 2 or 3 building of 4 or more storeys is relevant building work if the relevant building work plans and specifications provide for a performance solution to meet the performance requirement set out in EP1.4 in Volume 1 of the Building Code of Australia.

Note: In addition to the above, As of 1 July 2021 under A2.2 (4) of the BCA when a development proposes to incorporate a fire engineered solution/performance solution related to fire safety, in accordance with the National Construction Code (NCC) Volume 1 (Class 2 to 9 buildings) should be engaged in the PBDB/FEB process as a stakeholder.

**Comment:** *The building will be subject to a referral to FRNSW including both the FEBQ and Initial Fire Safety Report process where the building is subject to one of the above items listed from (1) – (3). Based on the current scope of works it is noted that the requirements of this clause will apply.*



## Section 14 - Fire Protection And Structural Capacity – Existing Buildings

Pursuant to Section 14 of the Environmental Planning and Assessment (Development Certification and Fire Safety)

Regulation 2021, a certifier must;

- 1) Not issue a construction certificate for building work under a development consent that authorises a change of building use unless—
  - (a) the fire protection and structural capacity of the building will be appropriate to its new use, and
  - (b) the building will comply with the Category 1 fire safety provisions that apply to the new use.
- 2) A certifier must not issue a construction certificate for alteration building work unless, on completion of the building work, the fire protection and structural capacity of the building will not be reduced.

**Comment:** *As the building will be subject to a change in use - the building will be subject to an upgrade strategy (outlined below) to ensure the fire protection will be suitable for the proposed building and the building will comply with relevant Category 1 fire safety provisions.*

*As part of the Construction Certificate process input from the projects structural engineer will need to be obtained confirming that the structural capacity is appropriate for the proposed use.*

## Environmental Planning And Assessment Regulation 2021

### Section 64 - Consent Authority May Require Upgrade Of Buildings

Pursuant to Section 64 of the Environmental Planning and Assessment Regulation 2021 the following will apply to the works,

- 1) Where a development application involves the rebuilding or alteration of an existing building and
  - a) the proposed building work and previous building work together represent more than half of the total volume of the building, or
  - b) the measures contained in the building are inadequate—
    - (i) to protect persons using the building, if there is a fire, or
    - (ii) to facilitate the safe egress of persons using the building from the building, if there is a fire, or
    - (iii) to restrict the spread of fire from the building to other buildings nearby.
- 2) The consent authority must consider whether it is appropriate to require the existing building to be brought into total or partial conformity with the Building Code of Australia.

**Comment:** *The works are noted as comprising more than 50% of the existing building. Notwithstanding an upgrade strategy has been documented in the report below for consideration by the consent authority in determining the extent of upgrade works required with respect of the proposed development.*

*The intent of the upgrade strategy is to ensure a suitable level of compliance for the current project scope whilst also ensuring future proofing of the remainder of the site having regards to any future works.*

## 1.5 Referenced Documentation

This report has been prepared based on a review of the preliminary DA architectural plans:

+ Drawing No.	+ Revision	+ Date
DA-101_M	M	24.07.2023
DA-102_O	O	24.07.2023
DA-103_J	J	24.07.2023

## 1.6 Building Classification

The new building works have been classified as follows:

+ BCA Classification	Class 3 (Hotel Accommodation), Class 5 (Admin Office), Class 6 (Café/ Restaurant), Class 7b (Storage), Class 8 (Workshop), Class 9b (Assembly building)
+ Rise in Storeys	The building has a rise in storeys of Three (3)
+ Type of Construction	Type A construction
+ Importance Level (Structural)	3 <i>Note: refer comments under Section B below with respect of works within existing building.</i>
+ Sprinkler Protected Throughout	Lieutenant Governor and Governor's residences (yes as per FER) Remaining parts (no)
+ Effective Height	TBC through submission of further design details – Less than 12m based on current documentation
+ Max. Fire Compartment Size	Refer report
+ Climate Zone	Climate zone 5

## 2.0 BCA Assessment – Key Issues

We note the following BCA compliance matters with relation to proposed building works are capable of complying with the BCA. Please note that this is not a full list of BCA clauses, they are the key requirements that relate to the proposed work and the below should be read in conjunction with the BCA.

### 2.1 Section B – Structure

#### Part B1

#### Structural Provisions:

- + New building works are to comply with the structural provisions of the BCA 2022 and referenced standards including AS 1170.
- + The structural engineer will need to certify that the structural capacity of any will not be reduced as a result of the new works and that the building is considered structurally adequate for its intended use.
- + In addition to the above, the loadbearing capacity of existing balustrades (where retained) should be reviewed, particularly with respect to loadings under AS 1170.
- + The Importance Level provisions of BCA (Section B) are to be acknowledged by the Structural Engineer and addressed to the degree necessary.
- + New building works to the existing building must be compliant with earthquake provisions of AS1170.4 – Earthquake Actions in Australia.

Consideration may be given to compliance with AS 3826-1998 - Strengthening existing buildings for earthquake for any required remedial works to the existing building where appropriate.

Planning portal indicative flood mapping suggest not within zone. Council Development Application to advise any specific requirements.

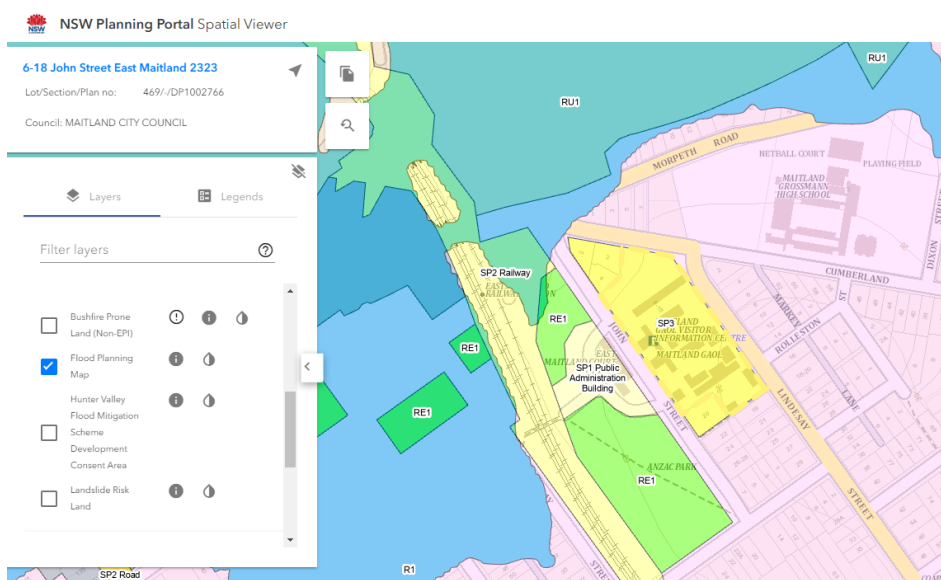


Figure 4: Flood Prone Mapping (Courtesy of NSW Planning Portal)

## 2.2 Section C – Fire Resistance

C2D2 /  
Spec 5

**Type of Construction Required:** The is required to comply with the requirements of as stated within Specification 5. The table below provides an overview of the requirements of each. Refer to Table of Appendix 1 for the FRL requirements of Type A Construction.

### Type A Construction:

- + Load-bearing external walls and columns must achieve an FRL regardless of distance from boundary / separate building.
- + Non load-bearing external walls (and columns incorporated within) need not achieve an FRL if >3m from a boundary or separate building.
- + Floors must achieve a FRL dependant on Building Classification.
- + Roof must be of non-combustible construction.
- + Internal columns on the floor immediately below the roof need not achieve an FRL.

**Comment:** For the purpose of this assessment the scoped areas have been considered two separated buildings both Type A construction. See C3D8(2) for performance solution required where separation cannot be confirmed.

The governors, lieutenants' office and adjoining structure is considered a single building. The building is described as the accommodation building for the purpose of this report.

The north-western building is described as the entertainment venue / restaurant building for the purpose of this report.

We understand as directed that there is no connection between buildings via a pedestrian gangway in the design.

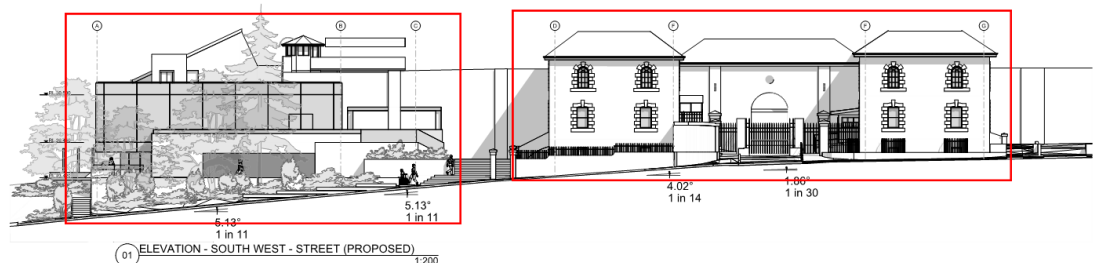


Figure 5: Subject Buildings

**Performance Solution:** Based on the initial inspection undertaken on the 14 November 2022, the following key items are required to be addressed as part of the proposed redevelopment works in consultation with Fire Engineer by way of a performance solution.

- + Fire rating to lightweight floors being timber floors within the lieutenants and governor's residence.
- + Support of another part where located within the same fire compartment.
- + Confirmation of fire rating for exiting slab separating storeys above entertainment restaurant building.
- + Rationalise the extent of bounding construction to the guest rooms / Class 3 parts of the building.
- + Confirming firewalls and bounding construct can extend to underside of slab or roof in manner that complies with C3D8 or Spec 5 noting elements may cross wall.

The following matters require further consideration and/ or input.

The DtS FRL of each part has been considered as depicted below.

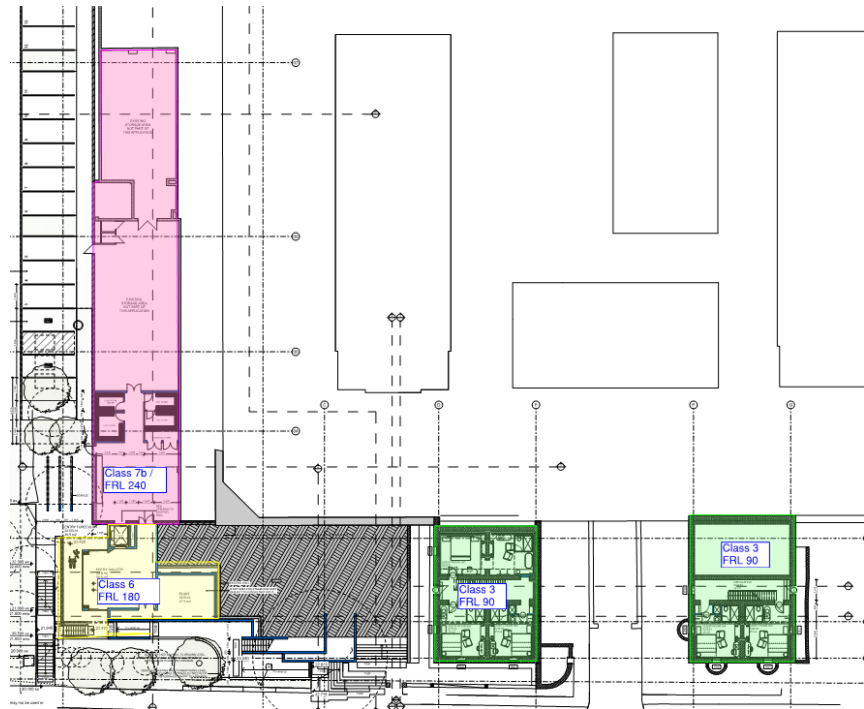


Figure 6: Classifications of Basmeent Floor

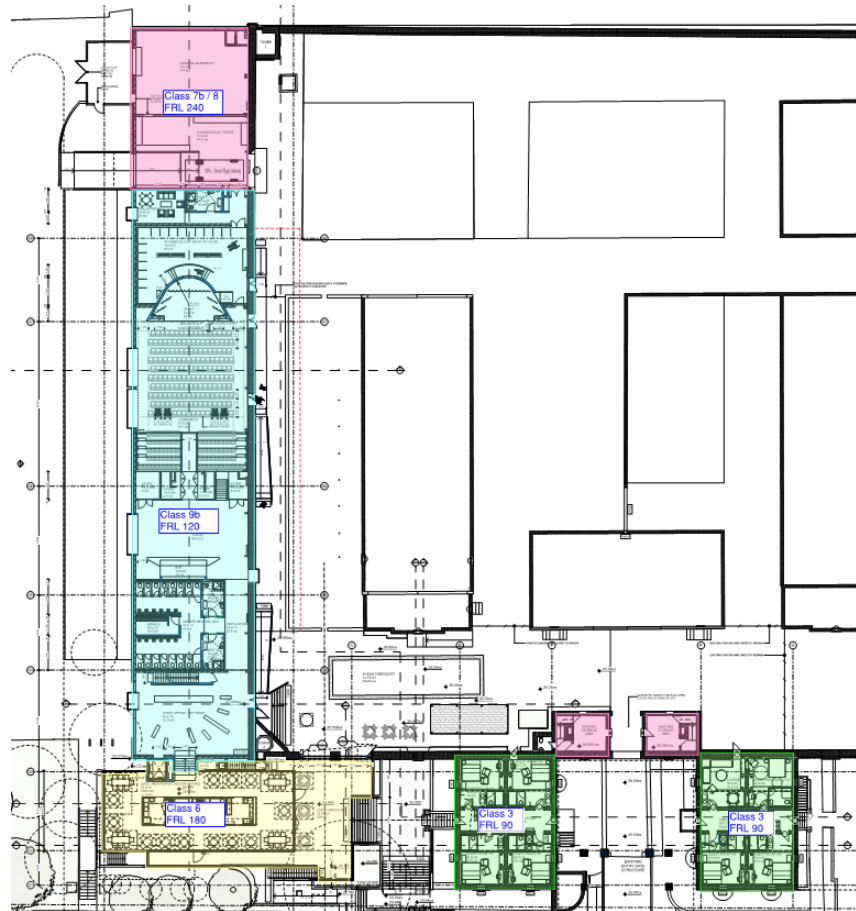


Figure 7: Classifications for Ground Floor

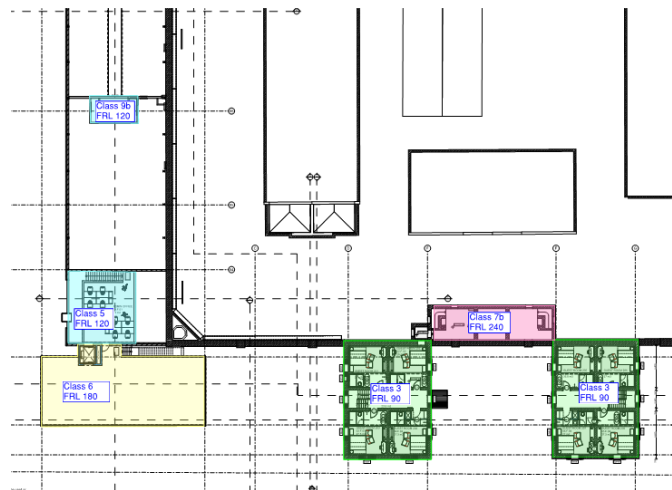


Figure 8: Classifications of First Floor

All load bearing steel columns and the like to be identified on plan for review. Fire rated required in accordance with BCA Spec 5 except where permitted variation is applied. Typical example below.

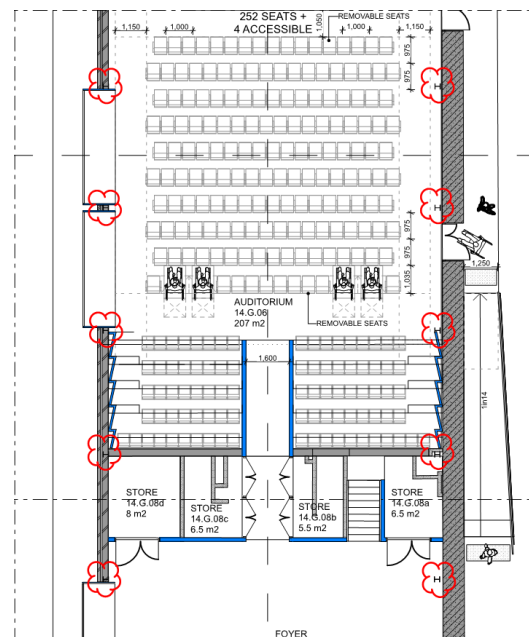


Figure 9: Steel Columns to be Fire-rated

Class 3 bounding construction between SOU's and between SOU and the public corridor is required in accordance with BCA Spec 5 except where varied under the fire engineering solutions as noted under this report. Structural engineer to review existing sandstone construction and provide details demonstrating compliance along with application for CC.

Bounding construction shall extend to the underside of non-combustible roof with roof battens <75 x50mm permitted to cross.

**Performance Solutions:** The following is suggested for consideration within the fire engineer strategy:

- + Rationalisation of Basement Class 6 parts to FRL 120 and potential to reduce FRL of adjoining Class 7b part.
- + Rationalisation of Class 6 parts within entertainment / restaurant building to FRL 120 mins in lieu of FRL 180 mins over Ground and Level 1.
- + Rationalisation of accommodation building bounding construction where compliance cannot be confirmed. FRL achieved, separation within roof space, any members crossing

	<ul style="list-style-type: none"> <li>+ building walls shall be confirmed for consideration.</li> <li>+ Rationalise the reliance on existing solid core doors to the Class 3 part.</li> </ul>
<p><b>C2D10 / C2D14</b></p>	<p><b>Non-Combustible Building Elements:</b> All materials and or components incorporated in an external wall or fire-rated wall must be non-combustible. This includes but not limited to:</p> <ul style="list-style-type: none"> <li>+ Any external wall claddings.</li> <li>+ Any framing or integral formwork systems. I.e. timber framing, sacrificial formwork, etc.</li> <li>+ Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc.</li> <li>+ Any sarking or insulation contained within the wall assembly.</li> </ul> <p>This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and approved prior to the issue of a Construction Certificate.</p> <p>Refer to Table 1 in Appendix 1 for the elements required to be non-combustible.</p> <p><b>Ancillary Elements:</b> An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible, unless it is in accordance with this clause.</p> <p><b>Comment:</b> All new works are required to comply with BCA C2D10 and BCA C2D14 accordingly. Any elements that are not non combustible shall be identified for review.</p> <p>Type A construction requires non combustibility for elements listed above. Due to the heritage nature it is anticipated a number of existing elements are to be retained which do not comply with BCA C2D10 and C2D14.</p> <p>The change of use applied throughout existing parts requires fire resistance to be appropriate for new use. Consultation with fire engineer and heritage consultant is required noting a number of existing elements will not comply with BCA C2D10 and C2D14.</p> <p>Signage shall ensure non-combustible or compliance with BCA C2D14</p> <p><b>Performance Solution:</b> Rationalise the retention of combustible heritage building fabric where proposed to remain.</p>
<p><b>C2D11 &amp; Spec. 7 NSW C2D11</b></p>	<p><b>Fire Hazard Properties:</b> All wall, floor and ceilings linings shall comply with the requirements of this Clause.</p> <ul style="list-style-type: none"> <li>+ Entertainment venue parts have additional requirements under NSW C2D11 for material on upholstered seats and proscenium curtain.</li> <li>+ New floor coverings to have critical radiant flux not less than 2.2 kW/m<sup>2</sup> (non-sprinklered protected area) and not less than 1.2 kW/m<sup>2</sup> (sprinkler protected building)</li> <li>+ Class 3 (sprinkler protected) - Wall and ceiling Linings within to achieve Group 1, 2 or 3 in public corridors and specific areas.</li> <li>+ Class 3 (non-sprinkler protected) - Wall and ceiling Linings within to achieve Group 1 or 2 in public corridors and not less than group 2 or 3 in other areas.</li> <li>+ Class 9b (non-sprinkler protected) - Wall and ceiling Linings within to achieve Group 1 in public corridors and specific areas group 1 or 2.</li> <li>+ Class 5 6, 7b or 8 (non-sprinkler protection) - Wall and ceiling Linings within to achieve Group 1 or 2 in public corridors and specific areas.</li> </ul> <p><b>Performance Solution:</b> The change of use applied throughout existing parts requires fire resistance to be appropriate for new use. Consultation with fire engineer and heritage consultant is required noting a number of existing elements will not comply with BCA C2D11 and NSW C2D11 with respect to development of Performance Solution. Details to the provided with CC application.</p>
<p><b>C3D3</b></p>	<p><b>General Floor Area and Volume Limitations:</b> The building is to achieve fire compartment sizes not in excess of the DtS requirements of this clause.</p> <p><b>Comment:</b> The following maximum fire compartment sizes apply to the building:</p> <ul style="list-style-type: none"> <li>+ Class 5 and 9b – Max 8,000m<sup>2</sup> / 48000m<sup>3</sup></li> <li>+ Class 6, 7 &amp; 8 – Max 5000m<sup>2</sup> / 30, 000m<sup>3</sup></li> <li>+ Class 3 – N/A bounding construction required.</li> </ul> <p>Plans are capable of complying based on the recommendations of this clause.</p>

Refer Fire engineering report for further information regarding FRLs and reduced FRLs proposed.

Basement storage to be fire separated from Class 6 by 240 minutes except where varied by FER. Fire separation also to bound out of scoped area to limit the extent of upgrade works required. This strategy will avoid unnecessary upgrade of existing structure.

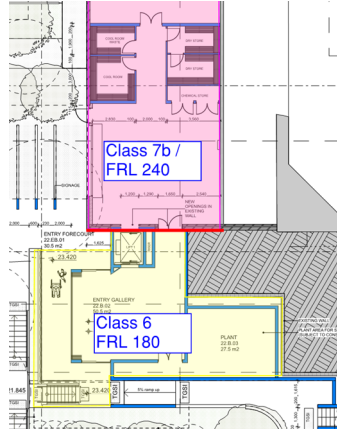
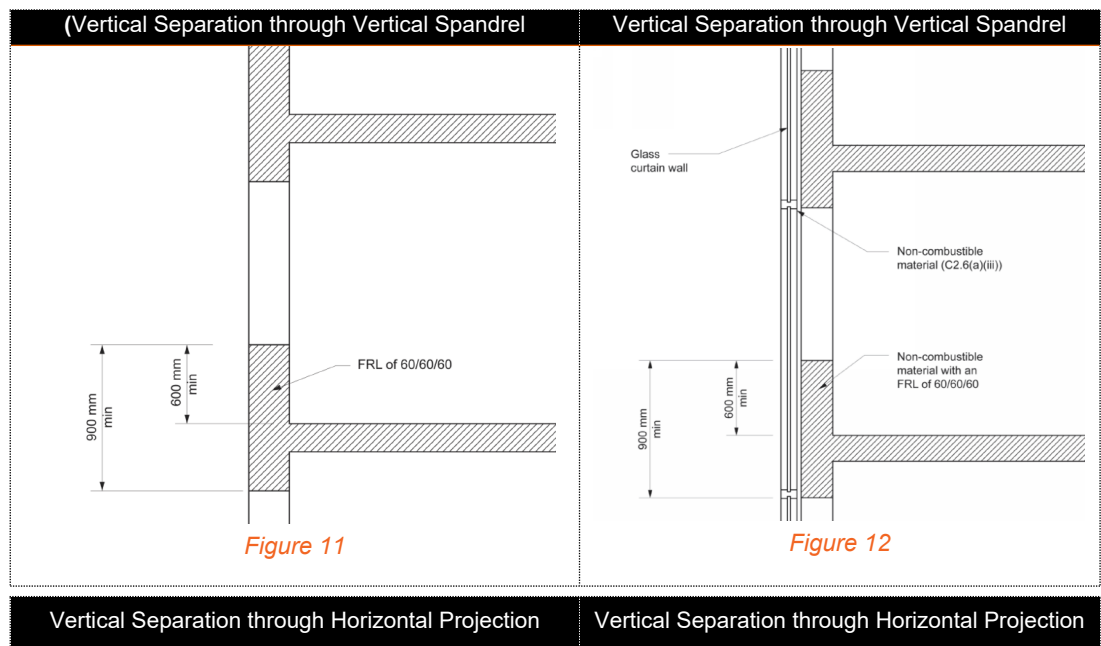


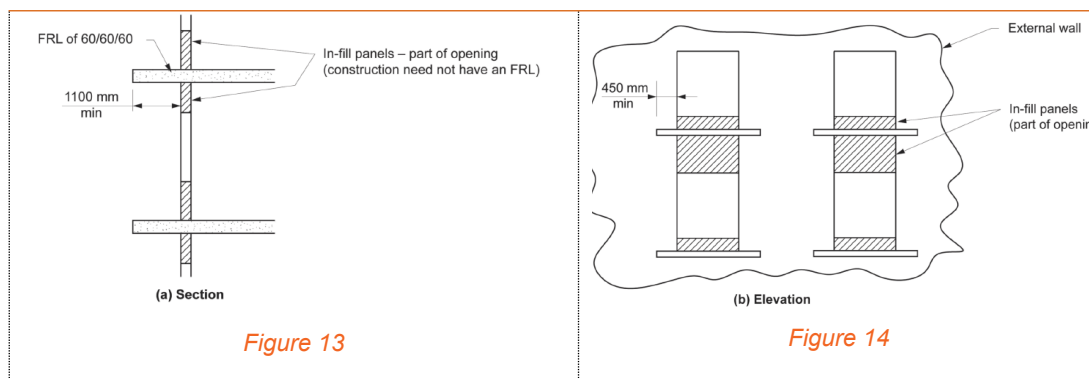
Figure 10

**C3D7**

**Vertical Separation of Openings in External Walls:** 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 a fire-rated spandrel, or a horizontal fire-rated extension.







**Comment:** Spandrel separation not required to building sprinkler protected throughout.

Fire rated spandrels are to be introduced into the Class 6, 5 and 9b restaurant/ entertainment building in accordance with the requirements of this Clause. Details to be provided along with application of Construction Certificate.

Structural engineer to confirm FRL of any existing elements to be relied upon.

### C3D8

#### Separation by Fire Walls:

Separation of buildings- A part of a building may be considered separate from the remainder of the building if separated by a fire wall in accordance with the following:

- + The fire wall extends through all storeys and is carried through to the underside of the roof covering.
- Where roofs of separate buildings are at different heights, the fire wall must extend to the underside of:
  - The higher roof, or >6m above the lower roof.
  - The lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3m to any wall above the lower roof.
  - The lower roof if its covering is non-combustible and the lower part is sprinkler protected.

Separation of fire compartments- A part of a building, separated from the remainder by a fire wall, may be treated as a separate fire compartment if the fire wall extends to the underside of:

- + A floor having an FRL required for a fire wall; or
- + The roof covering.

**Comment:** Compliance is readily achieved, to ensure compliance with respect to the new works and within existing building the compartmentation strategy will comprise the followings ensuring fire separation is maintained between.

- + Between areas being refurbished and existing areas of the building,
- + Where new floor space adjoins existing buildings.
- + Between Classifications that have different FRL or compartmentation limits.

Early coordination is required between the projects architect and structural engineer with respect of the structural elements ensuring no members other than roof battens 75x50mm pass through and or penetrate the fire rated wall. Where occurring this will need to be assessed on a case-by-case basis for inclusion by way of fire engineered strategy.

### C3D9/ C3D10

**Separation of Classifications:** Separate classifications will either need to be separated by a fire wall achieving the higher FRL requirement between the two classes, or alternatively the higher FRL must apply to both areas subject to Spec 5.

- + If a building has parts of different Classification located along side one another in the same storey each element in that storey must have the higher FRL as prescribed by Spec 5 for that element for the classification concerned OR separation by fire wall to the higher FRL is required.
- + If different parts classifications are situated one above the other in adjoining storeys, they must be separated in Type A construction the floors between adjoining parts must have an FRL not less than that prescribed in Spec 5 for the Classification of the lower storey

(example below)

Figure C2.9 Example of floors separating different classifications in a building of Type A construction

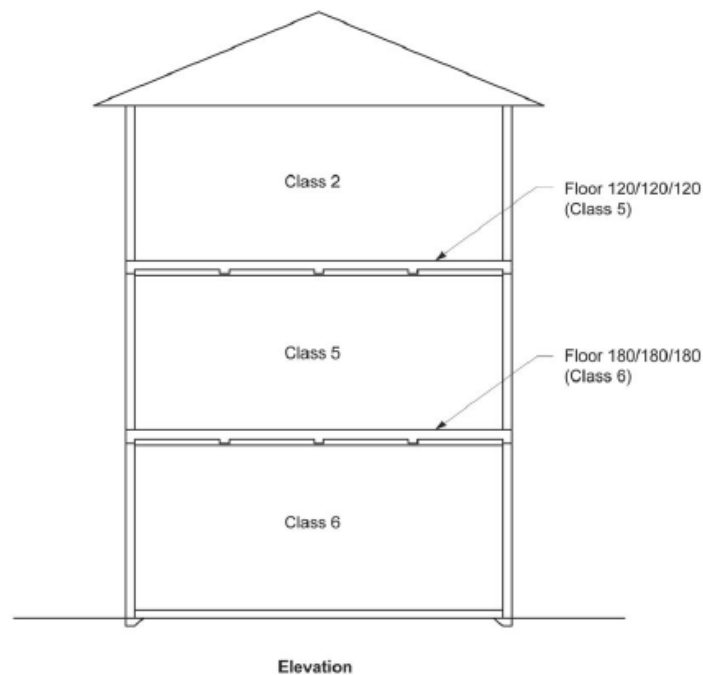


Figure 15

**Comment:** Compliance is readily achieved, fire separation to be provided or higher FRL to be applied throughout.

C3D11

**Separation of Lift Shafts:** New lifts shall comply with Spec C5 for Type A Building.

**Comment:** The new lift connects multiple storeys and shall have a higher FRL for adjoining parts except where varied under the fire engineering strategy.

C3D13  
C3D14

**Separation of Equipment:** Dependent on plant and equipment to be housed within the plant rooms, FRL 120/120/120 fire separation may be required to separate these areas from the building remainder. This is applicable to:

- + Main switch rooms / boards; or
- + Electricity substations; or
- + Light 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.
- + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a 200kWh or more.

**Comment:** Services consultants to review and ensure rooms requiring separation are identified and fire rating is to be incorporated in the design provided along with application for Construction Certificate.

C3D15

**Public corridors in Class 3 buildings:** In a Class 3 building a public corridor if more than 40m in length must be divided by not more than 40m with smoke proof walls complying with S11C2.

**Comment:** Based on current architectural documentation, the provisions of this clause do not apply to the Class 3 parts of the proposed development.

C4D3

**Protection of openings in external walls:** Openings in external wall that is required to have an FRL must be protected in accordance with BCA Spec 12 if the distance between the opening and the

fire source feature to which it is exposed is less than:

- + 3m from a side or rear boundary of the allotment; or
- + 6m from the far boundary of a road, or the like adjoining the allotment; or
- + 6m from another building on the allotment that is not Class 10.
- + If required to be protected, not occupy more than 1/3 of the area of the external wall of the storey in it is located.

Figure C3.2 Plan showing when C3.2 requires protection of openings in an external wall required to have an FRL

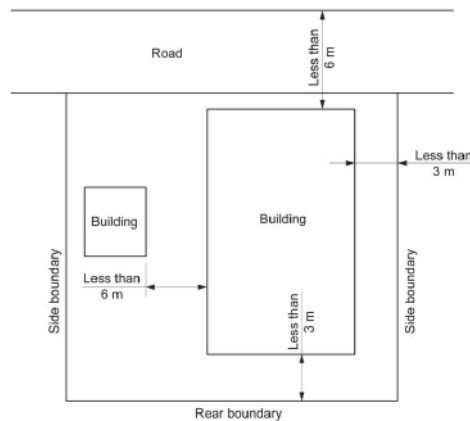


Figure 16

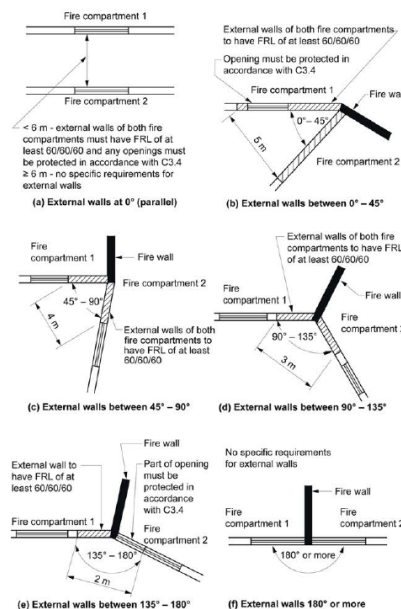
**Comment:** Based on current architectural documentation, the subject building are located greater than 6m apart, as such compliance is readily achieved.

**C4D4**

Separation of Different Fire Compartments: Separation between fire compartments is required in accordance with BCA C4D4.

Refer below for BCA DtS requirements for separation between fire compartments.

Figure C3.3 Plan showing illustration of Table C3.3



C3.3 applies to both external walls. It does not apply to fire walls separating fire compartments. (A fire wall is not always an internal wall. See Figure C2.7(3) of this Guide).

Figure 17

**Comment:** Compliance is readily achieved, fire ratings are to be documented in the design.

	<p><b>Performance solution:</b> Where exposure occurs there is an opportunity to address exposure for 120 FRL on one side in lieu of FRL 60 minutes for both. Compartmentation plans are required noting where different Classifications are rationalised to the same FRL they can be considered within the same fire compartment.</p>
<p><b>C4D5</b></p>	<p><u>Acceptable methods of protection:</u> where protection is required doorways, windows and other openings shall be protected in accordance with BCA C34D5</p> <p><b>Comment:</b> Compliance is readily achieved where proposed protection in accordance with this clause to be noted on documentation.</p>
<p><b>C4D11 C4D14</b></p>	<p><u>Openings in fire isolated lift shafts:</u> Doors to lifts to be minimum -/60/- and comply with AS1735.11.</p> <p><u>Openings in shafts:</u> In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by—</p> <ul style="list-style-type: none"> <li>(a) if it is in a sanitary compartment — a door or panel which, together with its frame, is non-combustible or has an FRL of not less than -/30/30; or</li> <li>(b) a self-closing -/60/30 fire door or hopper; or</li> <li>(c) an access panel having an FRL of not less than -/60/30; or</li> <li>(d) if the shaft is a garbage shaft — a door or hopper of non-combustible construction.</li> </ul> <p><b>Comment:</b> Compliance is readily achieved, details to be shown on Construction Certificate architectural documentation.</p>
<p><b>C4D12  NSW C4D12</b></p>	<p><u>Bounding Construction Class 3 buildings.</u> A door in Class 3 building must be protected if its access from SOU to public corridor or a room not within a SOU to public corridor by minimum -/60/30 fire rated self-closing door except where varied by Specification 18.</p> <p><b>Comment / Performance Solution:</b> Doors opening into the SOUs existing solid core doors will need to be addressed in the fire engineering strategy. Details to be provided along with the application for CC.</p> <div data-bbox="555 1115 1273 1547" data-label="Diagram"> </div> <p style="text-align: center;"><i>Figure 18: Requirement for Bounding Construction</i></p>
<p><b>C4D13 C4D15</b></p>	<p><u>Openings in floors and ceilings for services / Openings for service installations:</u> All shafts and service penetrations through fire rated elements are required to comply with BCA C4D13 and BCA C4D15 respectively. All service penetrations shall be tested system.</p> <p><b>Comment / Performance Solution:</b> Compliance is readily achieved, details demonstrating compliance to be provided with Construction Certificate. This includes any areas subject to upgrade works.</p>

## 2.3 Parts D – Provision for Escape and Construction of Exits

D2D3  
NSW  
D2D3(4)

**Number of Exits Required:** A minimum of one exit is required to be provided from each storey other than entertainment venue / auditorium under NSW D2D3(4)

**Comment:** Compliance is readily achieved with this clause.

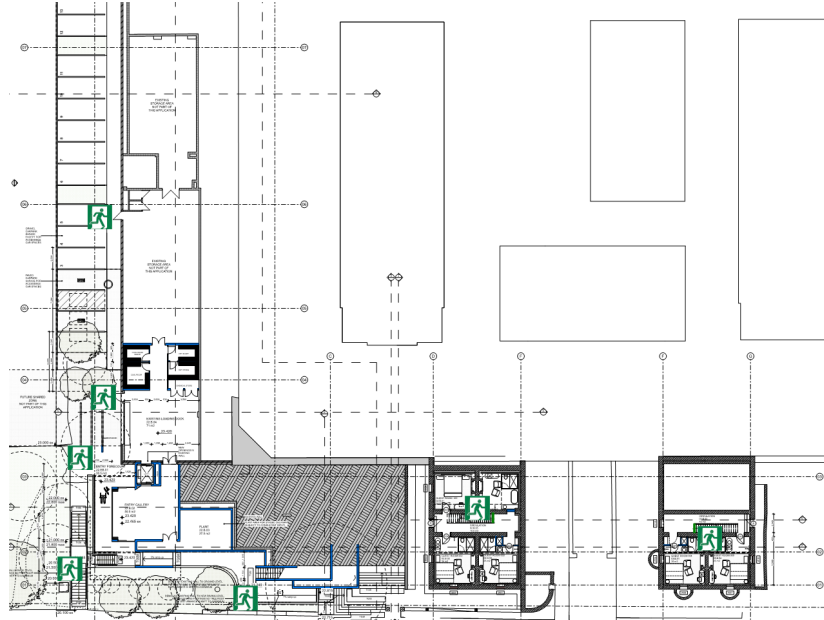


Figure 19: Basement Floor Exits

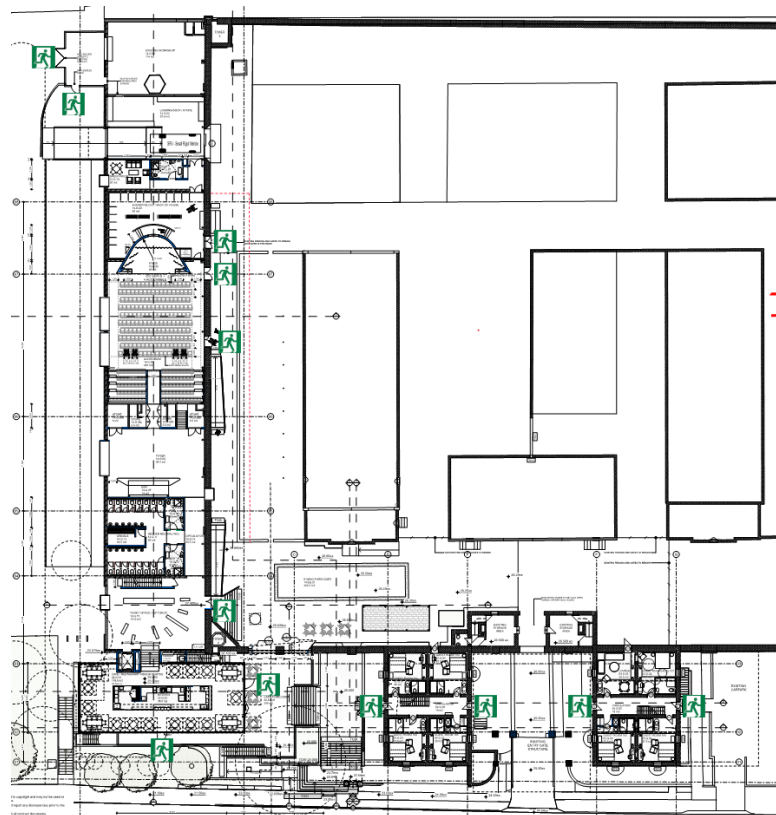


Figure 20: Ground Floor Exits

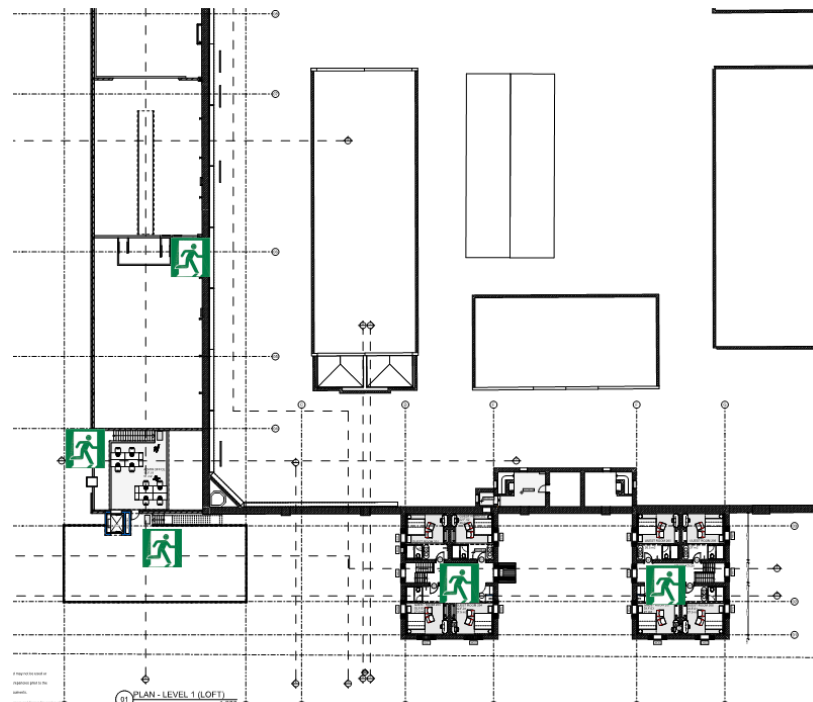


Figure 21: First Floor Exits

Note: Additional exits in excess of this requirement are required to satisfy aggregate exit width, travel distances, and vertical exit requirements when passing through numerous horizontal exits.

**D2D4**

**When Fire-Isolated Stairways and Ramps are Required:** Every stair serving as a required exit must be fire isolated unless it connects or passes by not more than:

- + 2 consecutive storeys in a Class 3 building (accommodation parts)
- + 2 consecutive storeys in Class 5,6,7,8 or 9 building (other than 9a / 9c)

Note one extra is storey permissible where sprinkler protected throughout each building OR the extra storey is fire separated from and the required exit does not provide access to or egress from.

**Comment:** The non-accommodation parts of the building (Class 6, 7b, 9 and 9b spaces have stairs which are depicted to only connect two storeys at this stage which is permissible under D1.3. Compliance is readily achieved.

The guest rooms are considered Class 3 and are connected over three storeys by internal timber stairs. Compliance is readily achieved on the basis that the building is sprinkler protected.

**D2D5**

**Exit Travel Distances:** Travel distances must not exceed 20m to a point of choice between two exits, and 40m to a single exit in Class 5-9 parts.

Travel distance within Class 3 (accommodation) must have no more than 6m from SOU entry doorway to an exit or point in which travel in different directions to two exits is available. Ground level being the level of egress is permitted to have max 20m from entry doorway to single exit.

Refer Spec 18 concession for Class 3 AS2118 sprinkler protected buildings whereby max travel can be increased from 6m to 12m to an exit or Point of Choice.

**Comment:** Entertainment / Restaurant: The travel distances of out of scope areas are not to be increased as a result of the proposed. Based on current architectural documentation, the proposed works do not impact the existing paths of egress from the basement storage areas.

Accommodation building: The accommodation building exceeds 6m to an exit on basement and level 1 as required to D2D5 however this may be increased to 12m in accordance with Specification 18 concessions for AS2218 sprinkler protected building where compliance with S18C3 is achieved. Fire service designer to ensure compliance with Spec 18 is achieved.

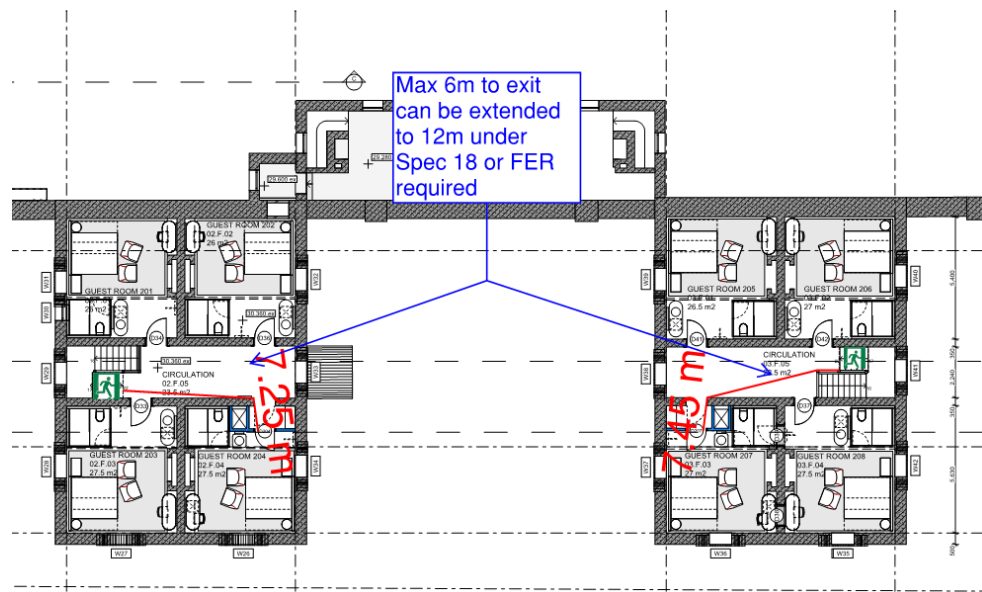


Figure 22: Extended Travel from SOUs

**D2D6**

**Distance Between Alternative Exits:** The maximum Distances between alternative exits must not exceed 45m in Class 3 accommodation areas and not more than 60m in Class 5-9 areas measured through the point of choice.

**Comment:** Compliant travel distances between alternative exits is generally achieved throughout both buildings.

**Performance Solution:** A fire engineered performance solution is required to be prepared to allow for alternative exits from the auditorium located within 9m.

**D2D7/  
D2D8/  
D2D9/  
D2D10/  
D2D11**

**Dimensions of Paths of Travel to an Exit:** The minimum clear height through all egress paths is required to be no less than 2m, and a minimum of 1m wide (this width dimension is measured clear of any obstructions such as handrails and joinery).

In a required exit or path of travel to an exit there is concession for the unobstructed width of a doorway to be reduced to 850mm min in lieu of 1m, and the unobstructed height for an exit doorway can be reduced to 1,980mm min.

**NSW  
D2D8,  
D2D9**

**Comment:** All areas other than entertainment venue parts to be minimum 1m clear unobstructed width. Accommodation building has a number of locations scaled less than this requiring design development. DDA consultant to confirm if second required handrail will be installed to stairs or Performance solution proposed as this will further require egress.

**Performance Solution:** Where reduced egress widths are proposed in existing building <1m this is to be addressed under a Fire Engineered strategy to be addressed as part of the CC stage.

At the direction of the client, the below indicated doors have been reviewed as openings. Architectural documentation is to be updated to reflect design change.

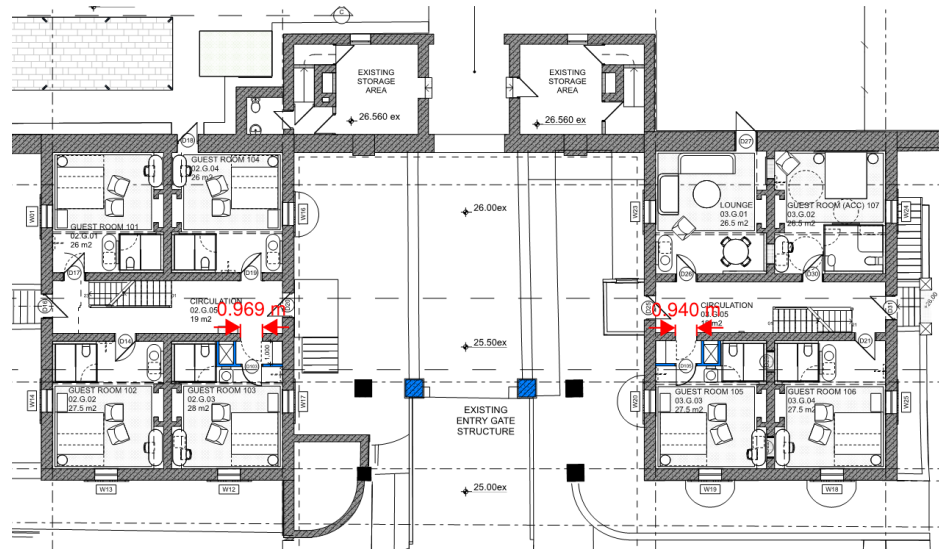


Figure 23: Egress Width less than 1m

Any storey, mezzanine or auditorium within an entertainment venue shall comply with BCA NSW D2D8 and D2D9. The 9b entertainment venue part requires:

- + In parts of the building used by the public, the width of the required exit or path of travel, and the unobstructed width of each doorway must not be less than 1m and not more than 3m. Other parts of the building can comply with BCA D2D9.; and
- + The aggregate width must not be less than 2m plus 500mm for every 50 person or part in excess of 200; and
- + Where one or more paths of travel merge, the width of the combined path of travel must not be less than the sum of the required widths of those paths of travel; and
- + The required widths of the paths of travel connecting the exits from the building to a public road or open space must comply with above.

**Comment:** The architectural plans depict 256 seats within auditorium which requires minimum 3m unobstructed egress width in accordance with NSW D2D8.

Compliant aggregate egress width is readily achieved on the basis of the FER rationalising alternate exits width 9m.

Additionally, the existing fencing and gates will need to be reviewed in future design stages to ensure an unobstructed width of 1.2m is maintained along the nominated path of egress.

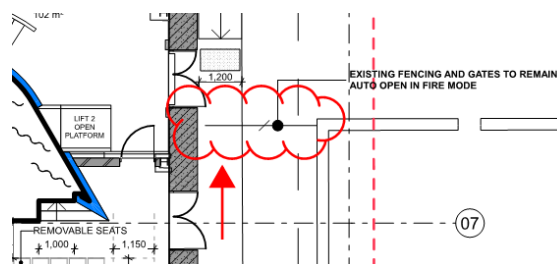


Figure 24: Fence/Gate along a Path of Egress

**D2D14**

**Travel Via Non-Fire Isolated Required Stairways:** A non-fire-isolated stairway or non-fire-isolated ramp serving as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided.

In a Class 3 building the distance between doorway of a SOU and point of egress to road or open space by way of a stairway that is not fire isolated and is required to serve a room or SOU must not exceed 60m. The non-fire isolated stairway must discharge at a point not more than 15m to a door providing egress to public road or 30m from two such doorways where in opposite or approximately opposite direction.



In a Class 5-9 building the distance from any point on the floor to a point of road or open space must not exceed 80m. The stair must discharge at a point not more than 20m to a point of road or open space, or from a fire-isolated passage, or 40m from one of two such points.

**Comment:** Based on current architectural documentation the non-fire isolated stairways, as indicated in the figure below, readily comply with the provision of this clause.

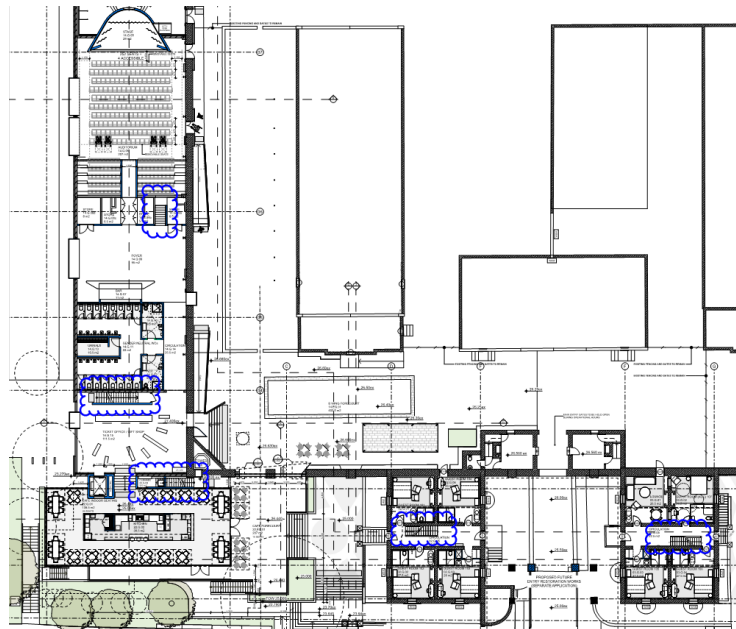


Figure 25: Non-fire isolated stairways

D2D15  
NSW  
D2D15

**Discharge from Exits:** The path of travel to the road from a required exit leading to open space must have an unobstructed exit width of that of the required exit, or if larger, 1m.

If an exit discharges to open space that is a different level to the public road to which it is connected, the path of travel to the road must be by a ramp or stairs complying with BCA part D4.

**Comment:** Stairs and ramps are provided connecting open space back to public road, as such compliance is readily achieved. Also refer to D3D10 for stairs required for aggregate egress must have handrail spaced not more than 2m intervals to be detailed in the design.

Architectural plans indicate that the existing gate highlighted in the figure below is to be provided with auto-unlatch/auto-open on alarm. The unobstructed width of the egress path through the gate is to be confirmed on the architectural documentation.

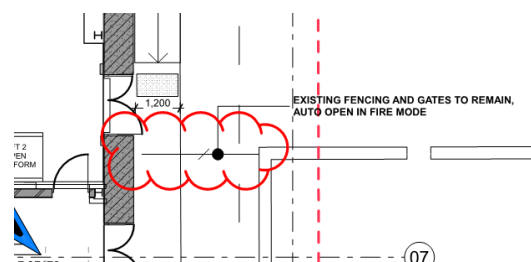


Figure 26: Existing Gate at Exit Discharge

**Performance Solution:** The entertainment/ restaurant building has multiple exits discharging into courtyard open to the sky however in order to reach public road egress under another part of the building by way of gangway (primary) or between accommodation block (secondary) is required. This is required to be addressed by way of fire engineered strategy.

NSW D2D215 requires a Class 9b building used as an entertainment venue, at least half of the required exits from each storey or mezzanine, and at least half the aggregate width of such exits must discharge otherwise than through the main entrance or the area immediately adjacent to the

main entrance of the building.

**D3D9**

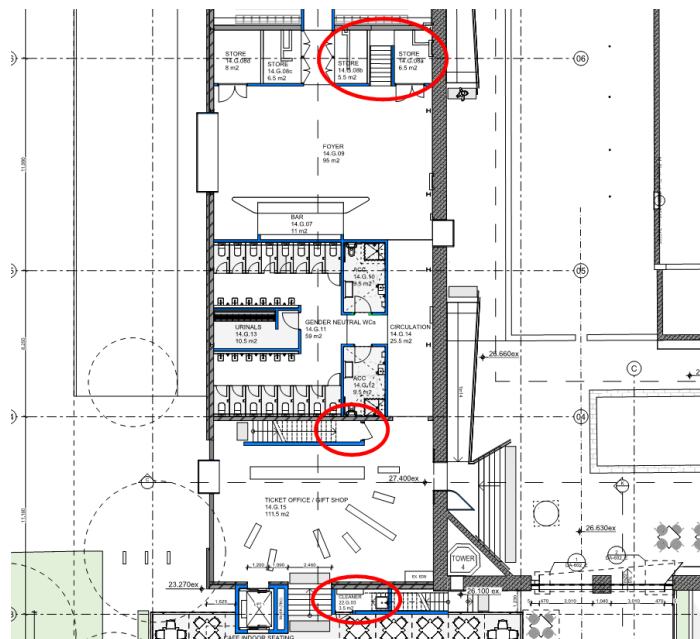
**Enclosure of Space under Stairs and ramps:**

Non fire-isolated stairways and ramps — The space below a required non fire-isolated stairway (including an external stairway) or non fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless—

- + The enclosing walls and ceilings have an FRL of not less than 60/60/60; and
- + Any access doorway to the enclosed space is fitted with a self-closing -/60/30 fire door.

**Comment:** A number of non fire isolated stairs depict a cupboard or enclosure under the stairs required fire separation in accordance with the requirements of this Clause. Architect to depict all enclosures under stairs with FRL 60 minutes separation with self closing -/60/30 fire door.

See E1D3 for FHR not permitted to pass through fire doors requiring FER for coverage.



*Figure 27: Enclosures located under non-fire isolated stairs*

Any enclosure under accommodation building stairs to be depicted on plan with fire rated construction in accordance with the requirements of this Clause.

**D3D10**

**Stairways, Balustrades, and Handrails:**

**D3D14/**

Stairways:

**NSW**

- + A stairway must have no more than 18, nor less than 2, risers in each flight.
- + Landings must be not less than 750mm in length.
- + In a Class 9b building, not more than 36 risers in consecutive flights without a change in direction of at least 30°.
- + In a Class 9b used as entertainment venue must have conspicuous edges to the treads of steps.
- + Slip resistance is required to all stairs, ramps and landings in accordance with AS4586.

**D3D14**

**D3D15/**

**D3D16/**

**NSW**

**D3D16**

Balustrades:

**D3D18**

**NSW**

**D3D18**

**D3D20/**

**D3D22**

- + All balustrades must achieve a minimum height of 1m above finished floor level.
- + Balustrades (except for fire-isolated stairs) must not permit a 125mm sphere to pass through any opening.
- + Balustrades in fire-isolated exits must comprise no gap larger than 150mm between nosing line (or landing) and bottom rail. Other openings in the balustrade must not exceed 460mm. If the fire-isolated exit also functions as a circulation stair, the 125mm gap requirement applies in lieu of these reduced provisions.
- + A barrier required by D3D17, located on a floor more than 1m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing

- + between 150mm and 760mm above the floor.
- + In a Class 9b Building used as an entertainment venue the minimum height of a balustrade for stairways and ramps and landings or the like must be 1m where provided within the building and 1200mm provided external to the building.

**Handrails:**

- + Handrails must be located on both sides of all stairways and ramps except for fire-isolated stairs. Handrails must comply with AS 1428.1 as relevant.
- + Handrails are required to be no more than 2m apart as required for aggregate egress in accordance with D3D10.
- + Handrails must be fixed at a minimum height of 865mm and be continuous between stair flight landings and have no on or above them that may break the hand hold. If in a required exit serving an accessible area, must comply with AS 1428.1.

**Comment:** All glass balustrades are to be included in the design certificate by structural NER. There shall be no climbable elements within 900mm such as GPO, AC units, taps or the like that facilitate climbing.

Entertainment venue balustrades to be min 1m high internally and min 1200mm where external to the building. This is to continue through to public road.



Figure 28

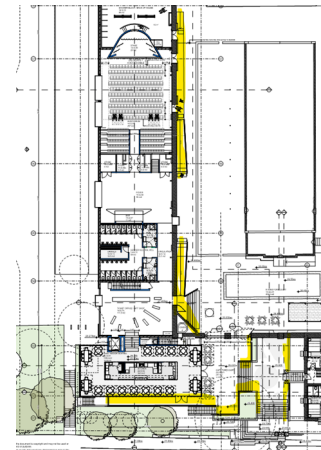


Figure 29

Stairs required for aggregate egress require handrails <2m spacing where required for aggregate egress. Typical example below, DDA consultant to ensure this is developed into design in accordance with AS1428.1.

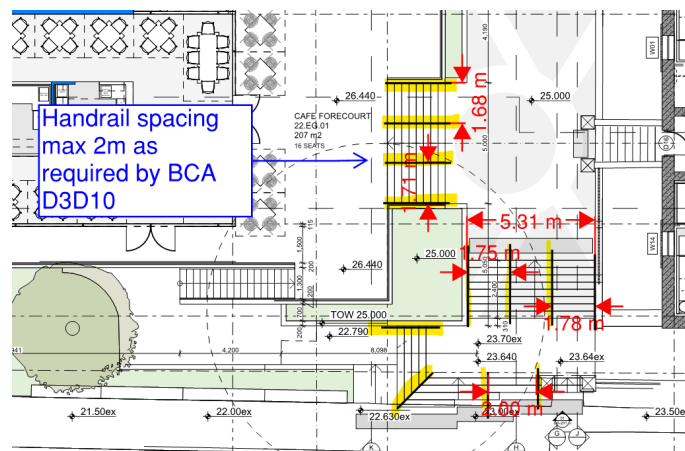


Figure 30: Handrails to be included

Stairs typically shall ensure minimum 1m clear unobstructed width between 2 x handrails. Architect to depict clear 1m between 2 x handrails on all stairs and ramps in accordance with AS1428.1.

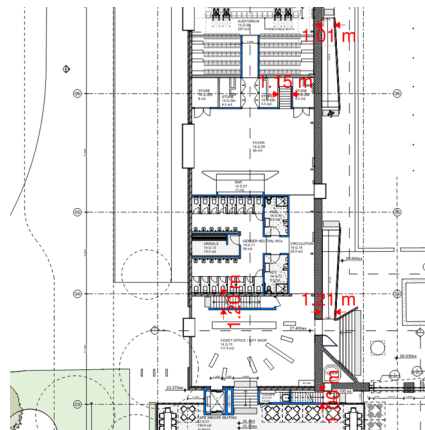


Figure 31: Stairways and Ramps requiring Two Handrails

Numerous new and existing areas have balustrade deficiencies are yet to be depicted. The accommodation exiting balustrade was measured as 800mm high. Confirmation is required this will be upgraded to min 1m.

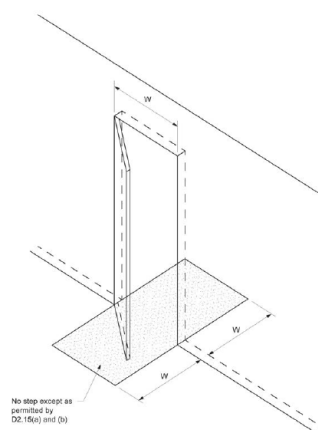
Where not an accessible location:

- + In Entertainment Venue Class 9b parts the door sill or doorway opening to road or open space, external stair landing or external balcony is not more than 50mm above the finished floor level; or
- + In other areas the door opens to road or open space, external stair landing or external balcony and the sill is no more than 190mm above the finished surface of the ground.

**Performance Solution:** The following does not comply for accommodation parts of the building and therefore would need to be addressed by way of fire engineered solution:

- + To permit more than 18 risers;
- + To permit any egress stairs that do not have a clear width >1m
- + Landings <750mm;
- + Any door threshold that does not comply with D3D16 and NSW D3D16

Figure D2.15(1) Illustration of where a step is not allowed in a doorway



**Performance Solution:** A performance solution will be required for:

- + To permit non continuous handrail;
- + To permit handrail to single side of stair only (TBC)
- + Any heritage balustrade items to be assessed on case by case basis (TBC)
- + The accommodation parts of the building had stair flights with more than 18 risers (21).

D3D25/  
D3D26  
NSW  
D3D24  
NSW  
D3D26  
NSW  
D3D31

**Doors and Latching:** All egress doorways must swing in the direction of egress and must be readily openable without a key from the side that faces a person seeking egress, by a single handed downward or pushing action on a single device which is located between 900mm and 1100mm from the floor.

A doorway serving as a required exit must not be fitted with a roller shutter or tilt up door unless:

- + It serves A Class 6, 7, or 8 building or part with a floor area not more than 200m<sup>2</sup>; and
- + The doorway is the only required exit from the building or part; and
- + Is held in the open position while the building or part is lawfully occupied.

A doorway serving as a required exit must not be fitted with a sliding door unless:

- + It opens directly to a road or open space; and
- + The door is able to be opened under a force of not more than 110N; and
- + If power operated, it auto opens upon activation of fire or smoke alarm anywhere within the building or upon power failure.

In a Class 9b building used as an entertainment venue:

- + Must not be fitted with a collapsible gate, accordion door, turnstile or rigid barrier; and
- + If fitted with a door it must be a swing door which opens in the direction of egress; and
- + Doors hung in two folds where the unobstructed width of the doorway is more than 1m
- + Any sliding door must be able of swinging in the direction of egress.
- + Panic bars are required to swinging doors. Any egress gates to comply with NSW BCA D3D26
- + There are no collapsible gates, accordion doors or turnstile gates permitted as doors in path of travel to an exit. All doors in the path of travel to comply with NSW D3D24 and NSW D3D31

**Comment:** On site investigations indicated numerous exit doors swinging against the direction. Exit doors are required to swing in the direction of egress or be included in FER.

Numerous doors knobs, prison gates do not have compliant hardware or latch to be updated.

Panic bars and min 1m egress width for doors in entertainment venue are required.

Architect to review and ensure all door hardware, direction of swing located on a path of travel to the required exits are readily openable at all times for a person seeking egress in accordance with the requirements of this Clause.

D3D29

**Protection of openable windows:** A window or opening must be provided with protection if the floor below the window is 2m or more above the surface beneath in a Class 3 building or part.

Where lowest level of the window opening is less than 1.7 above the floor, the openable portion of the window must be protected with a device capable of restricting the window or opening or a screen with secure fittings.

**Comment:** The Class 3 parts has numerous defiance's in regard to protection of windows. Protection of windows to be developed into the design.

Part D4

**Access for People with a Disability:** 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 D4D5. The building is required to comply with AS1428.1-2009.

**Comment / Performance Solution:** We understand an access consultant has been engaged to provide advice in this regard. Independent Access consultant required for early input noting a number of deficiencies identified which require upgrade strategy and consideration for performance solutions.

## 2.4 Section E – Services and Equipment

E1D1

**Fire Hydrants:** Fire hydrant coverage is required to be provided to the building in accordance with AS2419.1 – 2021.

**Comment:** Fire hydrant coverage is required to be provided throughout the scoped buildings in accordance with AS 2419.1 – 2021 as BCA 2022 the Code in force with CC application after May 2023.

Location of FH outlets to be positioned as per the below.

- + Externally located in accordance with AS2419.1 – 2021.
- + Within Fire isolated exits including stairways,
- + Where coverage is not achieved from Fire isolated exits – positioned within 4m of an exit (door to open space, Horizontal exit or non-fire isolated exit),
- + Within each Fire compartment not provided with coverage from the Fire isolated exit,
- + Once all of the required exits have been exhausted – then in paths of travel to suit FRNSW requirements.

Note: All exits need to be exhausted prior to provision of additional on floor plate.

The proposed arrangement with respect of the sitewide infrastructure upgrade will need to be developed into the design noting the existing ordinance 70 system is not supported by FRNSW and coverage from street hydrants will not be achieved through all areas / storeys.

DA staging to consider the site wide infrastructure upgrade within the first stage of DA.

Location of booster assembly (where required) within sight of main entry to be confirmed. Note unless buildings fully sprinkler protected the booster shall have fire shield protecting exposure where <10m from building.

Wet fire designer to confirm coverage plan noting new requirement for not being able to pass through roller doors.

Details demonstrating compliance to be provided by the hydraulic consultant in this regard this includes coverage markups.

### E1D3

**Fire Hose Reels:** Fire hose reel coverage is required to be provided to the buildings in accordance with E1.4 and AS2441-2005.

**Comment:** Hydraulic consultant will also need to coordinate the location of outlets having regards to the location of fire compartments to ensure adequate coverage to compartments and location of compartment doors to ensure there is no obstruction to the cabinets.

Fire hose reels do not apply to Class 3 or 5 buildings or part.

Cabinets are to be positioned so that they are not obstructed by swing of FH/FHR cupboard doors and or other services cupboards including EDB cupboards and the like. Architect to coordinate and provided details demonstrating compliance in this regard.

FHR coverage plans to be provided for review and comment.

**Performance Solution:** Where fire hose reels are located >4m from the exit this is required to be included within the fire engineered strategy. On site investigations had some exits areas where this is applicable, additional areas to be monitored as the design progresses.

Additionally the FER shall permit FHR to provide coverage under stair enclosures which are fire rated.

### E1D4 – E1D13

**Sprinklers:** An automatic fire sprinkler system is required to be provided in accordance with AS 2118.1 (2017) or 4 (2012).

**Comment:** Sprinkler to be provided throughout accommodation building to offset number of performance solutions.

Early coordination with fire engineer required to confirm extent of additional fire safety measure that will be required to offset number of fire engineered solutions particularly in regard to heritage listed elements not achieving required FRL including the existing solid core heritage doors and any existing masonry construction not achieving the required FRL.

Refer Specification 18 for BCA concessions applicable for sprinkler protected building.

### E1D14

**Fire Extinguishers:** To be provided and designed in accordance with AS 2444-2001.

**Comment:** Design certification to be provided along with the application for CC and installation certification prior to the issuing of an Occupation Certificate.

Class 3 require fire extinguisher listed in BCA E1D14 within 10m of SOU entry doors.

**E1D17**

**Provisions for Special Hazards:** Suitable additional provisions must be made for firefighting if unique problems could arise due to;

- + The nature or quantity of materials stored, displayed or used in a building on the allotment; or
- + The location of the building in relation to a water supply for firefighting purposes.

**Comment:** Consideration for design team.

**ED23/  
E2D8/  
E2D9/  
NSW  
E2D16**

**Smoke Hazard Management:** The following smoke hazard management systems are to be installed to the building and will be required throughout:

- + An Automatic Fire Detection and Alarm System and Building Occupant Warning System complying with AS 1670.1 – 2018 and S20C4.
- + Air handling systems that do not form part of smoke hazard management systems in accordance with E2D4 – E2D20 and which recycles air from one fire compartment to another fire compartments (including between Class 3 SOU's) or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must incorporate smoke dampers where air handling duct crosses fire rated element and be arranged to auto shutdown on activation of fire or smoke alarm anywhere within the building.
- + The Class 3 accommodation building requires compliance to BCA E2D8 being smoke detection and alarm system complying with Specification 20.
- + The Class 6/9b/ 7b/8 building requires either smoke detection in accordance with Spec 20 or sprinkler system (other than FPA System) complying with Specification 17. The report assumes smoke detection will be installed.
- + Stages and backstages shall be designed to comply with NSW E2D16 (c).
- + The accommodation building provided with sprinklers is required to be monitored in accordance with AS1670.3 – 2018.
- + Smoke and Heat Vents (NSW I4D59) by way of FER for not being on uppermost storey or smoke exhaust complying with Specification 21 for entertainment building stage and backstage.
- + This building has not been considered to have combined use as an exhibition hall in accordance with NSW E2D18. Confirmation is required if this is not the intent.

**Comment:** Fire Service designer to coordinate above fire service in conjunction with fire engineer. Where Specification 18 concessions are intended to be applied for Class 3 accommodation building the fire service designer shall confirm all requirements under S18C3(2) are implemented into design.

The architectural plans depict stage and back stage area in excess of 150m<sup>2</sup> (approx. 171m<sup>2</sup>) which would therefore require smoke exhaust system in accordance with NSW E2D16 (c)3.

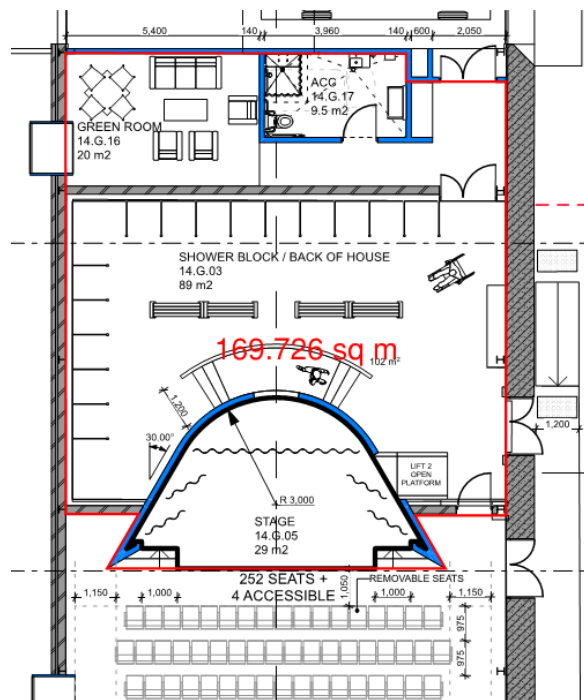


Figure 32: Area of Stage, BOH and Green Room

Where separation (FRL 60 minutes) of greenroom/ back of house reduces floor area between 50m<sup>2</sup>-150m<sup>2</sup> than roof mounted automatic smoke and heat vents complying with NSW I4D59 could be considered by way of fire engineered strategy as there is roof directly above however this is not the uppermost storey (NSW E2D16 (c)(ii)). Example below.

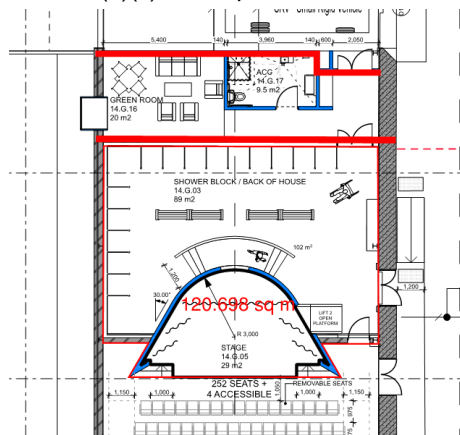


Figure 33: Separation of Back of House and Green Room

## E2D21

**Provisions for special hazards:** Additional smoke hazard management measures may be necessary due to the—

- + Special characteristics of the building; or
- + Special function or use of the building; or
- + Special type or quantity of material stored, displayed or used in a building; or
- + Special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.

**Comment:** Design team to review and comment.

## Part E3

**Lifts:** The following provisions are required to be provided to the lifts:

- + Fire service controls in accordance with E3D9.
- + Fire service recall control switch in accordance with E3D11.
- + Lift car fire service drive control switch in accordance with E3D12.



	<p>All passenger lifts are to be reviewed by an access consultant to confirm suitability for appropriate internal dimensions.</p> <p>All lifts must be provided with minimum components to meet NCC E3.6, including handrails, tactile and Braille control buttons, and further enhanced features for people with disabilities to meet the parameters of AS 1735.12:1999, including however not limited to, delayed door closing device, visual and audible indication upon lift arrival and arrival at each landing.</p> <p><b>Comment:</b> DDA and lift consultant to confirm compliance.</p>
<p><b>E4D2 - E4D8</b></p>	<p><b>Emergency Lighting and Exits Signs:</b> Emergency lighting and exit signage to be provided in accordance with E4D2 - E4D5 complying with AS 2293.1 – 2018.</p> <p><b>Comment:</b> Exit and emergency shall be upgraded as required to suit new building use arrangement. Non fire isolated stairs shall have emergency light of stairs.</p>
<p><b>E4D9</b></p>	<p><b>Emergency Warning &amp; Intercom Systems (EWIS):</b> An Emergency Warning and Intercom System is required to be provided in accordance with AS 1670.4 – 2018. EWIS is required to be provided for Class 9b parts used as a theatre or the like as floor area exceeds 1,000 m2.</p> <p><b>Comment:</b> The existing emergency warning system is to be extended throughout the new entertainment building. Coordination is required with fire designer to confirm if how the accommodation building will be connected e.g. single FIP.</p>
<p><b>Spec 18</b></p>	<p><b>Class 2 and 3 buildings not more than 265m in effective height:</b></p> <p>(1) A required automatic fire sprinkler system installed in a Class 2 or 3 building with an effective height of not more than 25m and a rise in storeys of 4 or more must comply with—</p> <p>a) AS 2118.1; or</p> <p>b) AS 2118.4, as applicable.</p> <p>(2) A Class 2 or 3 building not more than 25 m in effective height with a rise in storeys of 4 or more provided with an automatic fire sprinkler system under (1)(a) or (1)(b) may be constructed in accordance with S18C4(1), as applicable, provided—</p> <p>a) the automatic fire sprinkler system is permanently connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with Specification 23 if—</p> <p>(i) the system has more than 100 sprinkler heads; or</p> <p>(ii) in the case of a residential care building, the building will accommodate more than 32 residents; and</p> <p>(b) the automatic fire sprinkler system is fitted with sprinklers complying with clauses 4.4, 4.5 and 5.5.2 of AS 2118.4 in bedrooms; and</p> <p>(c) an automatic smoke detection and alarm system is installed in accordance with Specification 20 except that it need not be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre, and in the case of a residential care building it must be installed in accordance with—</p> <p>(i) S20C4; or</p> <p>(ii) both—</p> <p>A) S20C3, provided S20C3(1)(b) is applied as if the building was not protected with a sprinkler system; and</p> <p>B) Specification 23; and</p>

(d) in a residential care building, the automatic smoke detection and alarm system and the automatic fire sprinkler system are connected to a local fire indicator panel provided in accordance with Specification 23.

#### **S18C4 – Permitted Concessions**

(1) The following concessions are permitted for Class 2 and 3 buildings provided with a required automatic fire sprinkler

system in accordance with S18C3(1)(a) or (1)(b):

(a) The FRL for self-closing fire doors, as required by C4D9 and C4D12, may be reduced to not less than –/30/30.

(b) The FRL for—

(i) all non-loadbearing internal walls and shafts constructed of fire-protected timber, as required by Specification 5 to have FRLs greater than –/60/60, may be reduced to –/60/60 and service penetrations through non-loadbearing internal walls and shafts constructed of fire-protected timber, required by C4D15, may be reduced to not less than –/60/15; and

(ii) all other non-loadbearing internal walls, as required by Specification 5, may be reduced to –/45/45 and the FRL for service penetrations through non-loadbearing internal walls and shafts, as required by C4D15, may be reduced to –/45/15.

(c) The FRL for fire-isolated stairways enclosed with non-loadbearing construction, as required by D2D4, may be reduced to –/45/45.

(d) Except in a residential care building, the maximum distance of travel, as required by D2D5(1)(a)(i), may be increased from 6 m to 12 m.

(e) The maximum distance of travel from a single exit serving the storey at the level of egress to a road or open space, as required by D2D5(1)(a)(ii), may be increased from 20 m to 30 m.

(f) The maximum distance between alternative exits, as required by D2D6(c)(i), may be increased from 45 m to 60m.

(g) Internal fire hydrants in accordance with E1D2 are not required where—

(i) the building is served by external fire hydrants that provide compliant coverage installed in accordance with E1D2, except that in a residential care building the nozzle at the end of the length of hose need only reach the entry door of any sole-occupancy unit to be considered as covering the area within the sole-occupancy unit; or

(ii) a dry fire hydrant system that otherwise complies with AS 2419.1 is installed in the building and—

(A) each fire hydrant head is located in accordance with E1D2 and fitted with a blank end cap or plug; and

(B) the pipework is installed in accordance with E1D2 (as for a required fire main) except that it need not be connected to a water supply; and

(C) a hydrant booster inlet connection is provided in accordance with E1D2; and

(D) an external street or feed hydrant capable of providing the required system flow is located within 60 m of the hydrant booster connection.

(h) An emergency warning and intercom system need not be provided in a residential care building in accordance with E4D9 if a warning system with an override public address facility is installed in accordance with Specification 23.

**Comment:** Specification 18 concessions available for accommodation building only where all the criteria of S18C3 are developed into the design. Confirmation is required in this regard.

## 2.5 Section F – Health and Amenity

### Part F1 / F3P1 F1D5

**Damp and Weatherproofing:** Damp and weatherproofing to comply with the prescriptive requirements of this Part.

**Comment:** Weatherproofing of roof and external walls required compliance with BCA F3P1.

External above ground membranes for external above ground use must comply with AS4654.1 and AS4654.2.

Early advice with DDA consultant required noting accessible areas require smooth and level transition. Weather proofing junctions to be coordinated in this regard.

**Performance Solution:** A performance solution is required to be provided prior to the issue of a Construction Certificate demonstrating compliance with F3P1. The external weatherproofing junctions at doorways shall be included within the solution.

### Part F2

**Wet Areas and Overflow Protection:** Where urinals are installed, an impervious wall lining must be provided up to the top of the urinal.

Floor waste is required in Class 3 bathrooms and laundries in accordance with BCA F2D4. Where any floor waste is installed (including floor wastes not required by the BCA), they must be provided with falls in accordance with F2D4.

All waterproofing is to be constructed in accordance with BCA F2D2 and AS3740 – 2021.

**Comment:** Architect and hydraulic engineer to note above criteria and development into the design.

### Part F3

**Roof and Wall Cladding:** This section contains DtS provisions for the weatherproofing of certain external wall and roof designs.

- + Roof coverings must comply with F3D2.
- + Sarking must comply with F3D3.
- + Glazed assemblies must comply with F3D4.
- + Wall cladding must comply with F3D5.

**Performance Solution:** A Performance Solution is required to be obtained in relation to the departures from F3D5 with respect to wall cladding systems.

### Part F4 NSW Table F4D4d NSW F6D6

**Sanitary Facilities:** Sanitary facilities must be provided to comply with the requirements of this part.

Sanitary Facilities for the proposed works – Class 3 -9 Employees						
	Closet Pans		Urinals		Washbasins	
	Required	Proposed	Required	Proposed	Required	Proposed
Male	1 – 20	1	1 – 10	0	1 – 30	1
	>20	Add 1 per 20	11 – 25	1	>30	Add 1 per 30
			26 – 50	2		
			>50	Add 1 per 50		
Female	1 – 15	1	-	-	1 – 30	1
	> 15	Add 1 per 15	-	-	>30	Add 1 per 30

Sanitary Facilities for the proposed works – Class 6 restaurant café and bar

	Closet Pans		Urinals		Washbasins	
	Required	Proposed	Required	Proposed	Required	Proposed
Male patrons	1 – 100	1	1-50	1	1 – 50	1
	101 - 300	2	51-100	2	51-200	2
	>300	Add 1 per 200	101 - 150	3	>200	Add 1 per 200
			151-200	4		
Female patrons	1 – 25	1	N/A	N/A	1 – 50	1
	26-50	2			51-200	2
	51-100	3			>200	1 per 200
	101-150	4				
	151-200	5				
	201-250	6				
	>250	Add 1 per 100				

Sanitary Facilities for the proposed works – Class 9b Single auditorium theatre						
	Closet Pans		Urinals		Washbasins	
	Required	Proposed	Required	Proposed	Required	Proposed
Male patrons	1-50	0				
	51 – 250	1	1-50	0	1 – 50	0
	251 - 500	2	51-100	1	51-200	1
	>300	Add 1 per 500	>100	Add 1 per 100	>200	Add 1 per 150
Female patrons	1 – 50	0	N/A	N/A	1 – 50	0
	51-110	3			51-150	1
	111-170	4			>150	1 per 150
	171-230	5				
	231-250	6				
>250	Add 1 per 80					

Class 3 buildings require provision of:

- + A bath or shower; and
- + Closet pan; and
- + Washbasin

For each 10 residents for whom private facilities are not provided.

Compliance achieved with this aspect.

**Comment:** Based on patron occupant numbers suitable provision of accessible facilities is achievable subject to confirmation of total maximum employees and Class 6parts e.g., restaurant areas. Confirmation of this aspect required in future design stages so compliance can be confirmed.

Architectural plans depict gender neutral WC's. F4D3 and F4D4 require sperate facilities for males and females. Gender neutral facilities do not comply in this regard.

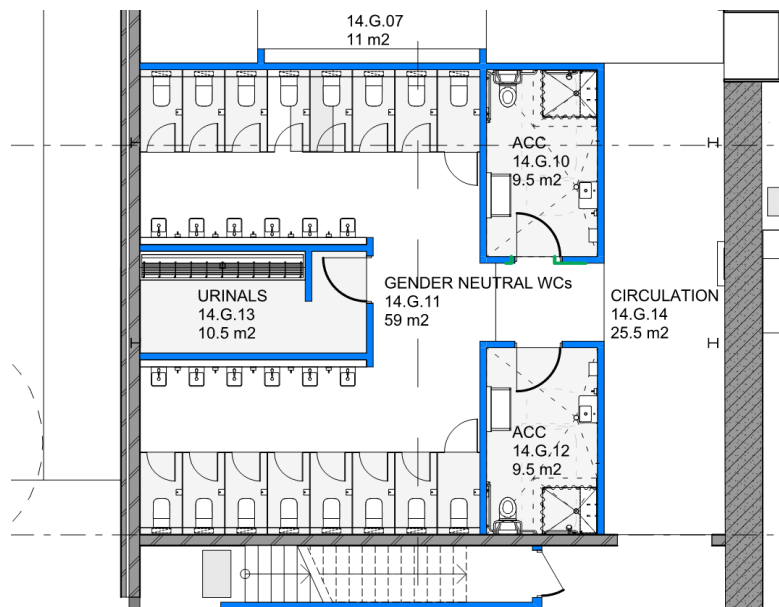


Figure 34: Proposed Sanitary Facilities

**Performance Solution:** A performance solution will be required to address any non-compliance with the Performance Requirements. This is to be agreed upon by relevant stakeholders including Principal Certifying Authority.

Where gender neutral facilities are proposed walls, partitions (full height) and doors are required to afford privacy.

*Note: The accessible toilet facilities have been counted once for each sex in accordance with BCA clause F4D3 and F4D4.*

## Part F5

**Ceiling Heights:** The floor to ceiling heights must be as follows:

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

- + Kitchen, laundry or the like – 2.1m
- + Corridor or passageway – 2.1m
- + A habitable room, excluding kitchen – 2.4m

The minimum ceiling heights in a Class 5 / 6 / 7 / 8 building are as follows:

- + Generally – 2.4m.
- + Corridor, passageways, or the like – 2.1m.

The minimum ceiling heights in a Class 9b building are as follows:

- + Assembly building or part accommodating not more than 100 persons – 2.4m.
- + Theatre, public hall, or other assembly building or part accommodating more than 100 persons – 2.7m.

In any building:

- + Bathrooms, sanitary compartments, tea preparations rooms, pantries, store rooms or the like – 2.1m,
- + A commercial kitchen – 2.4m,
- + Above a stairway, ramp, landing or the like – 2m.

**Comment:** Architect to note and develop into design. RCP is required to confirm compliance in future design stages.

## Part F6

**Light and Ventilation:** Artificial lighting systems are required to comply with Clause F4.4 and AS 1680. All mechanical or air-conditioning installations must be undertaken in accordance with Clauses F6D6 and AS 1668.2.-2012.

Natural lighting must be provided in:

- + Class 3 buildings — to all bedrooms and dormitories.

**Comment:** Mechanical engineer to confirm compliance with BCA Part F6. A commercial kitchen must be provided with a kitchen exhaust hood complying with AS1668.1 and AS1668.2.

Minimum 10% of opening providing natural light to floor area of bedrooms or dormitories to be confirmed. Compliance generally achievable however clarification is required regarding how natural light is provided to guest rooms on the lower storey.

## Part F7

**Sound Transmission and Insulation:** Floors and walls bounding Class 3 parts are required to comply with the prescriptive provisions of Part F5 as related to sound transmission and insulation.

- + Floors separating SOU's from parts of a different classification must have  $R_w + C_{tr}$  not less than 50 and  $L_{nw}$  (impact) not more than 62.
- + Walls between Class 3 SOU's shall have min  $R_w + C_{tr}$  (airborne) not less than 50 if it separates SOU and not less than  $R_w$  (airborne) not less than 50 if it separates SOU from public corridor or SOU from another classification.
- + Doors in separating Class 3 SOU shall have a  $R_w$  not less than 30.
- + Acoustic lagging of services required.

**Performance Solution:** Noting the existing heritage constraints where any wall or floor elements can be retained compliance with BCA Part F6 is required to be confirmed e.g. discontinuous construction. Acoustic consultant required to provide performance solution for any deviation

## 2.6 Section G – Ancillary Provisions

### NSW Part G5

**Construction in Bushfire Prone Areas:** The Deemed-to-Satisfy Provisions of this Part apply in a designated bushfire prone area to—

- + A Class 3 building; and
- + A building located in an area subject to a Bushfire Attack Level (BAL) not exceeding BAL—12.5, determined in accordance with AS 3959 that is—

**Comment:** Indicative mapping suggest site is not located in Bushfire Zone. Council to advise of any specific requirements.

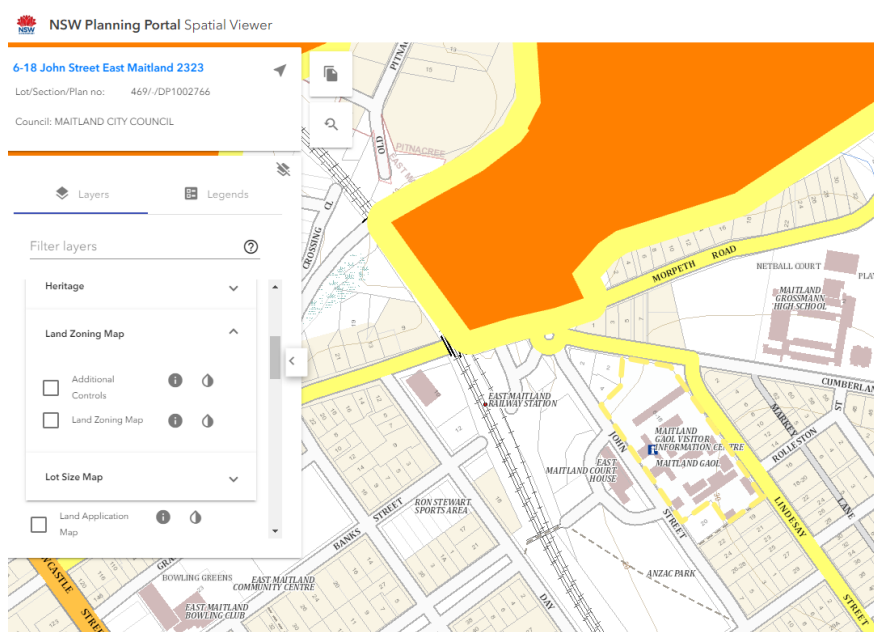


Figure 35: Bushfire Prone Inad (Courtesy of NSW Planning Portal)

**Part G6**

**Occupiable Outdoor Areas:** Occupiable Outdoor Areas (such as the communal rooftop space) are required to comply with the fire hazard property, provision for escape, construction of exits, firefighting equipment, lift installations, visibility in an emergency, exit signs and warning systems, and light and ventilation provisions of the BCA (as specifically prescribed under this part) as if it were an internal building part.

## 2.7 Section I – Special Use Buildings

**Part I1  
NSW  
I1D1**

**Class 9b Buildings – Theatres, Stages, and Public Halls:** The building works are subject to compliance with the special use building provisions of BCA 2022.

**Comment:** Class 9b is considered an entertainment venue compliance with NSW Part I4 applies.

## 2.8 Section NSW Part I4 – Entertainment Venues

**Part I4**

**Entertainment Venues:** The building is classified as an Entertainment Venue as defined under the Environmental Planning and Assessment Regulations 2021, and as such is required to comply with the requirements under this part. Compliance is readily achievable, noting a detailed review is to be carried out prior to the Construction Certificate stage.

**Comment:** The following is to be developed into design.

**NSW I4D2 Fire separation**

If an entertainment venue forms part only of a building, then—

- a) the whole of the entertainment venue; or
- b) the part containing the stage, backstage area and auditorium,

must be separated from the other parts of the building by construction having an FRL of not less than 60/60/60.

**Comment:** Confirm separation on plan example below. Note this would require to be separated in upper story as well.

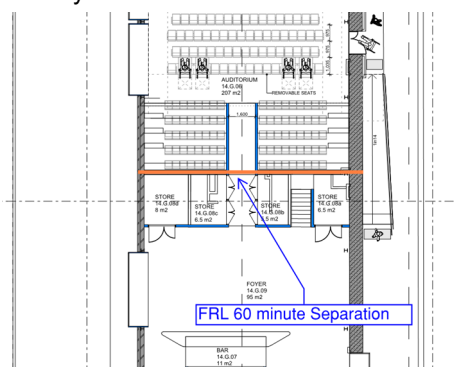


Figure 36

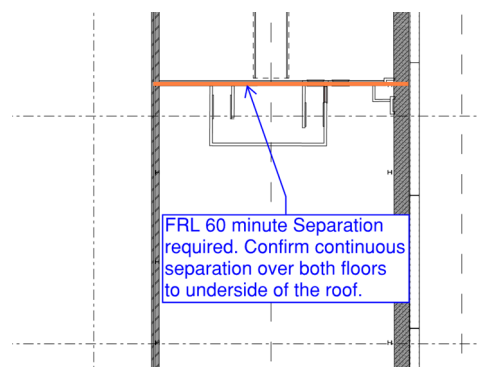


Figure 37

**NSW I4D3 Foyer space**

Where an entertainment venue is used principally for the purpose of—

- (a) exhibiting films; or
- (b) conducting live stage productions,

foyer space (excluding stairways and concession areas) must be provided on the basis of at least 0.25 m2 for each person that the auditorium accommodates.

**Comment:** The foyer is nominated as 95m<sup>2</sup> the auditorium has approx. 256 people which achieve compliance with the requirements of this Clause.

#### NSW I4D6 Conventional stages: extent of stage area

If a room or area is not separated from the remainder of a conventional stage by construction having an FRL of not less than 60/60/60, the room or area is, for the purposes of this Part, to be taken to form part of the stage.

**Comment:** The stage and backstage areas are not currently fire separated and therefore (under the provisions of NSW I4D6) have an area greater the 50m<sup>2</sup> but less than 150m<sup>2</sup>.

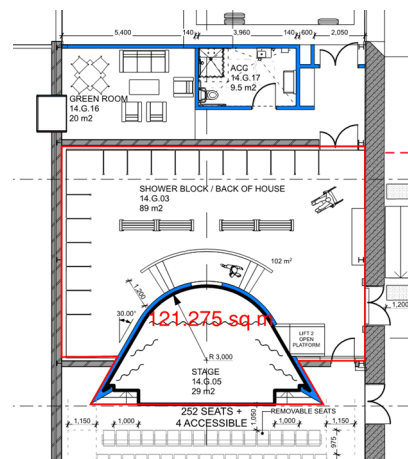


Figure 38: Stage Area

#### NSW I4D7 Conventional stages: small stages

A stage which is more than 50 m<sup>2</sup> but not more than 150 m<sup>2</sup> in area must have 2 or more means of egress from the stage and backstage area provided otherwise than through the proscenium wall.

**Comment:** In order to achieve compliance, both the stage and backstage areas are to be provided with 2 or more means of egress.

In this regard compliance is not currently achieved. There is potential for the curved stairs to be split and provide two separate egress points from the stage. Alternatively, can be addressed by way of a fire engineered solution.

#### NSW I4D9 Conventional stages: fire separation of stages

A stage which is more than 50 m<sup>2</sup> in area, and all areas below such a stage, must (with the exception of the proscenium opening) be separated from the backstage and the remainder of the building by construction having an FRL of not less than 60/60/60.

**Comment:** FRL 60 minute separation is required to be developed into the design for all areas other than proscenium opening (walls, floors and doors). Self closing fire doors shall be developed into both stairs providing access to the stage. Separation is required in accordance with this clause and is to be developed into the design except where varied by way of a fire engineered strategy.

#### NSW I4D13 Flying scenery

Where there is a grid or other means of flying scenery over a conventional stage or non-conventional stage there are numerous BCA requirements under NSW I4D13.

**Comment:** It is noted there is an elevated platform however this is not located above the stage but rather set back. Confirmation of use is required and if there is any grid or flying scenery located over the stage to which the provisions of this Clause will apply.



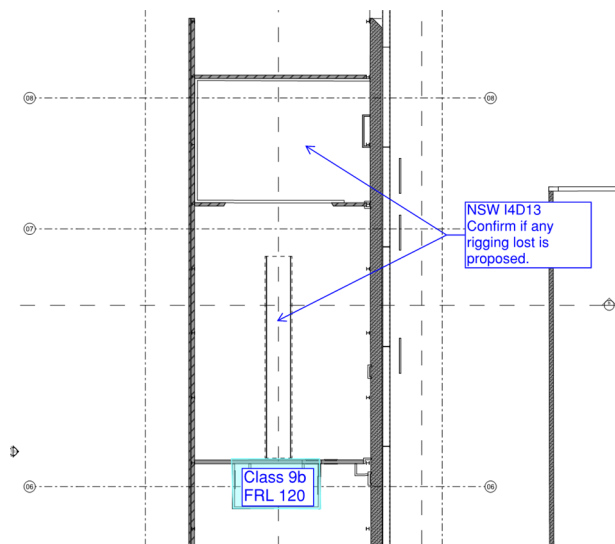


Figure 39

#### NSW I4D14 Load notice

(1) A notice indicating the actual distributed and concentrated load for which the stage floor has been designed must be conspicuously and permanently displayed in a position adjacent to the stage floor.

(2) The notice must be in legible letters and figures—

(a) at least 50 mm high; and

(b) on a contrasting background.

**Comment:** To be developed into design.

#### NSW I4D17 Seating in rows: application

NSW I4D18 to NSW I4D25 do not apply to continental seating or seating at tables.

**Comment:** It is understood the proposed seating plan is to comprised of fixed continental seating and therefore the provisions of clauses NSW I4D18 to NSW I4D25 do not apply.

#### NSW I4D26 – NSW I4D35 Continental seating

The proposed continental seating plan is to be provided demonstrating compliance with the above-listed clauses at Construction Certificate stage.

#### NSW I4D36 Provision of guardrails: location

Guardrails must be provided—

(a) along the fascia of each balcony or box; and

(b) if there is a stepped floor, along the front edge of each cross-over; and where NSW I4D37 and NSW I4D38 apply.

#### NSW I4D37 Provision of guardrails: fixed back seats

If seats with fixed backs are provided, guardrails that extend for the full width of the seating, must be provided at least 500 mm above the platform unless—

(a) fixed back seats of the next lower level project at least 500 mm above the level of the stepped platform; and

(b) there is only one riser between the platform and next lower cross-over.

#### NSW I4D38 Provision of guardrails: steps between platforms

If -

(a) there is more than one intervening step in an aisle between levels of platforms, a guardrail must be provided (at a vertical height of at least 660 mm measured above the nosing of each tread and of the upper platform) to the sides of the aisle adjacent to those steps; and

- (b) there is more than one intervening step in an aisle between levels of platforms, and that aisle is along a wall, a continuous guardrail must be affixed to that wall at a height of at least 865 mm above the nosing of each tread; and
- (c) the end of the platform or the back of the highest platform does not abut a wall that extends at least 660 mm above the floor level of the platform, a guardrail not less than 660 mm high must be provided—
  - (i) at the ends of the platform, extending from the front of the first riser to the back of the highest platform; and
  - (ii) at the back of the highest platform, extending the full width of the platform; and
- (d) there is an inclined floor, the raised section of which is not bounded by walls at least 660 mm high, a guardrail must be provided that extends around the perimeter of the raised section at a height of at least 660 mm above the inclined floor level; and
- (e) seating at tables is provided on a stepped platform, a guardrail at least 500 mm high must be provided along the front edge of the platform.

**NSW I4D54-58 Projection suites;**

Projection suites have requirements under the BCA for fire separation. Confirmation is required if this is the intent as additional BCA triggers are required.

**NSW I4D54-58 Lighting;**

Electrical engineer to review lighting requirements for entertainment venues in conjunction with architect to develop into the design.

## 2.9 Section J – Energy Efficiency

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**Part J**

**Energy Efficiency:** The new building works subject to compliance with the Energy Efficiency Provisions of BCA 2022 Section J relating to:

- + J1: Energy Efficiency Performance Requirements
- + J2: Energy Efficiency
- + J4: Building Fabric
- + J5: Building Sealing
- + J6: Air-Conditioning and Ventilation
- + J7: Artificial Lighting and Power
- + J8: Heated Water Supply and Swimming Pool and Spa Pool Plant
- + **J9:** Energy Monitoring and On-Site Distributed Energy Resources

The Construction Certificate documentation from the architect, mechanical, electrical, and hydraulic engineers are to incorporate details demonstrating compliance with the above provisions (as applicable to their respective disciplines).

## 3.0 Draft Summary of Fire Engineered Solutions

+ BCA (DTS)		+ Description
1.	C2D2, Spec 5 & C3D8	<ul style="list-style-type: none"> <li>+ Fire rating to lightweight floors being timber floors within the lieutenants and governor's residence.</li> <li>+ Support of another part where located within the same fire compartment.</li> <li>+ Confirmation of fire rating for exiting slab separating storeys above entertainment restaurant building.</li> <li>+ Rationalise the extent of bounding construction to the guest rooms / Class 3 parts of the building.</li> <li>+ Confirming firewalls and bounding construct can extend to underside of slab or roof in manner that complies with C3D8 or Spec 5 noting elements may cross wall.</li> <li>+ Rationalisation of Basement Class 6 parts to FRL 120 and potential to reduce FRL of adjoining Class 7b part.</li> <li>+ Rationalisation of Class 6 parts within entertainment / restaurant building to FRL 120 mins in lieu of FRL 180 mins over Ground and Level 1.</li> <li>+ Rationalisation of accommodation building bounding construction where compliance cannot be confirmed. FRL achieved, separation within roof space, any members crossing building walls shall be confirmed for consideration.</li> <li>+ Rationalise the reliance on existing solid core doors to the Class 3 part.</li> </ul>
2.	C2D10 & C2D14	Rationalise the retention of combustible heritage building fabric where proposed to remain.
3.	C2D11, Spec. 7 & NSW C2D11	Rationalise the change of use applied throughout existing parts requiring fire resistance to building fabric and structural elements to be appropriate for new use.
4.	C4D4	Rationalise two way FRL 120 minute protection to one side of the fire compartment where exposure occurs.
5.	C4D12	Rationalise existing solid core doors opening into the SOUs from a public corridor.
6.	D2D6	A fire engineered performance solution is required to be prepared to allow for alternative exits from the auditorium located within 9m.
7.	D2D7, D2D8, D2D9, D2D10, D2D11 & NSW D2D8	Rationalise any points where the minimum unobstructed clearance width is less 1m.
8.	D2D15 & NSW D2D15	The entertainment/ restaurant building has multiple exits discharging into courtyard open to the sky however in order to reach public road egress under another part of the building by way of gangway (primary) or between residential block (secondary) is required.
9.	E1D3	<ul style="list-style-type: none"> <li>+ Where fire hose reels are located &gt;4m from the exit this is required to be included within the fire engineered strategy. On site investigations had some exits areas where this is applicable, additional areas to be monitored as the design progresses.</li> <li>+ To permit FHR to provide coverage under stair enclosures which are fire rated.</li> </ul>

<b>10.</b>	<b>E2D3, E2D8, E2D9, NSW E2D16 &amp; NSW I4D59</b>	To permit roof mounted automatic smoke and heat vents complying with NSW I4D59 by way of fire engineered strategy as there is roof directly above however this is not the uppermost storey (NSW E2D16 (c)(ii).
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## 4.0 Preliminary Fire Safety Schedule

The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final compliance review.

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Existing	+ Proposed
Access Panels, Doors & Hoppers	BCA 2022 Clause C4D14 AS 1530.4 – 2014 and Manufacturer’s Specifications		✓
Alarm Signalling Equipment	AS 1670.3 – 2018		✓
Automatic Fail Safe Devices	BCA 2022 Clause D3D26		✓
Automatic Fire Detection & Alarm System	BCA 2022 Spec. 20 & BCA Spec 23 AS 1670.1 – 2018		✓
Automatic Fire Suppression Systems	BCA 2022 Spec. 17 & BCA Spec 18 AS 2118.1 – 2017 or AS 2118.4, 6 – 2012.		✓
Building Occupant Warning System activated by the Sprinkler System	BCA 2022 Spec. 17 Clause 8 and / or Clause 3.22 of AS 1670.1 – 2018		✓
Emergency Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018		✓
Emergency Evacuation Plan	AS 3745 - 2010		✓
Emergency Warning Intercom System (EWIS)	BCA 2022 E4D9, S31C19 of BCA AS1670.4 - 2018		✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018		✓
Fire Blankets	AS 3504 – 1995 & AS2444 – 2001		✓
Fire Dampers	BCA 2022 Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 and Manufacturer’s Specification		✓
Fire Doors	BCA 2022 Clause C3D13, C4D3, C4D5, C4D6 & C4D12		✓

	AS 1905.1 – 2015 and Manufacturer's Specification		
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005		✓
Fire Hydrant Systems (External Hydrants) (Street Hydrants)	BCA 2022 Clause E1D2 AS 2419.1 – 2021		✓
Fire Seals	BCA 2022 Clause C4D15, AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification		✓
Lightweight Construction	BCA 2022 Clause C2D9 AS 1530.4 – 2014 and Manufacturer's Specification		✓
Mechanical Air Handling Systems (Automatic Shutdown)	BCA 2022 Clause E2D3, NSW E2D16 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012		✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001		✓
Required Exit Doors (Power Operated)	BCA 2022 Clause D3D24(2)		✓
Smoke Alarms	BCA 2022 Spec 20 AS 3786 – 2014		✓
Smoke and Heat Vents	BCA 2022 Spec 22 AS 2665 – 2001		✓
Smoke Hazard Management Systems + Smoke Exhaust; OR + Smoke and Heat Vents (FER)	BCA 2022 Part E2 AS/NZS 1668.1 –2015 BCA 2022 Spec 22 AS 2665 – 2001		✓
Smoke and/or Heat Detectors (auto shutdown or smoke exhaust)	S20C6 of BCA Spec 20 AS 1668.1 - 2015		✓
Smoke Dampers	BCA 2022 Spec 11 AS/NZS 1668.1 – 2015		✓
Stand-by Power Systems	BCA 2022 Spec 31 AS 3000 – 2018		✓
Wall-Wetting Sprinklers	BCA 2022 Clause C4D5 AS 2118.2 – 2010		✓
Warning & Operational Signs	BCA 2022 Clause C4D7, D3D28, D4D7, E4D4 & I4D14. AS 1905.1 – 2015 & Section 108 of the EP&A (DCFS) Regulation 2021		✓
Fire Engineered Performance Solutions relating to: 1. TBC	BCA 2022 Performance Requirements ... Fire Safety Engineering Report prepared by		✓

	... Report No. ... Revision ... dated ...		
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Please note that the above schedule will need to be revised prior to issue of the Construction Certificate to reference any proposed Fire Engineering Report and incorporate any additional measures required by the proposed Performance Solutions.

## 5.0 Conclusion

This report contains an assessment of the referenced architectural documentation for the proposed Maitland Gaol Redevelopment development located at High Street Maitland. , against the Deemed-to-Satisfy provisions and Performance Requirements of the National Construction Code Series (Volume 1) Building Code of Australia 2022.

In view of the above assessment we can confirm that subject to the above measures being appropriately addressed by the project design team, compliance with the provisions of the BCA is readily achievable.

In addition, it is considered that such matters can adequately be addressed in the preparation of the Construction Certificate documentation without giving rise to any inconsistencies with the Development Approval.

Should you require further assistance or clarification please do not hesitate to contact the undersigned on 02 4047 4955 or via email – [jake@bmplusg.com.au](mailto:jake@bmplusg.com.au).

**Prepared by:**



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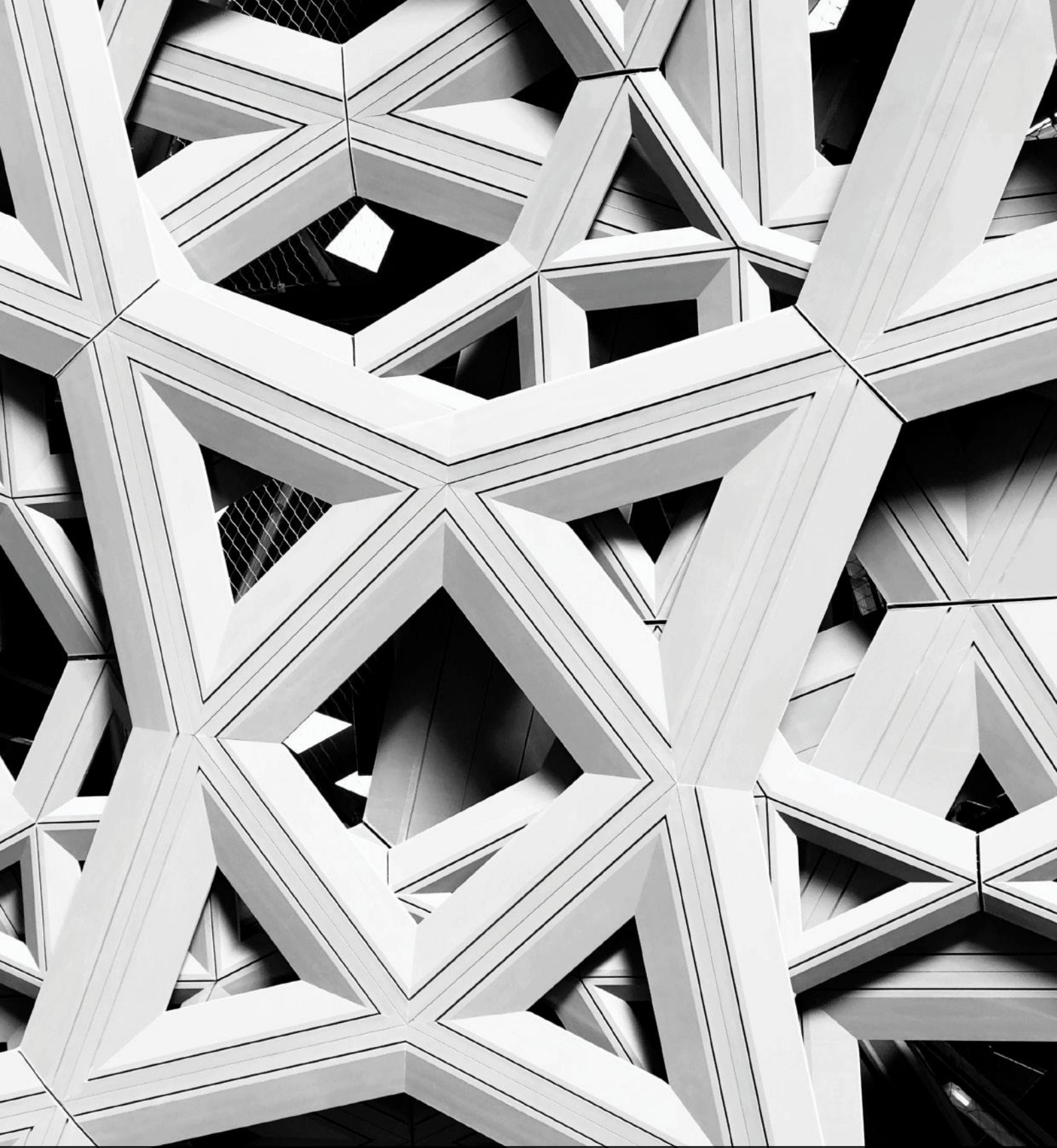
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## Appendices



## Appendix 1 – Fire Resisting Construction Requirements

TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS				
+ Building Element	+ Class of Building - FRL: (in minutes) Structural adequacy/integrity/insulation			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> – (Including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is:				
<b>For loadbearing parts:</b>				
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90
<b>For non-loadbearing parts:</b>				
less than 1.5m	-/90/90	-/120/120	-/180/180	-/240/240
1.5 to less than 3m	-/60/60	-/90/90	-/180/120	-/240/180
3m or more	-/-/-	-/-/-	-/-/-	-/-/-
<b>EXTERNAL COLUMN</b> - Not incorporated in an external wall				
For loadbearing columns	90/-/-	120/-/-	180/-/-	240/-/-
For non-loadbearing columns	-/-/-	-/-/-	-/-/-	-/-/-
<b>COMMON WALLS and FIRE WALLS</b>	90/90/90	120/120/120	180/180/180	240/240/240
<b>INTERNAL WALLS</b>				
<b>Fire-resisting lift and stair shafts</b>				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120s
Non-loadbearing	-/90/90	-/120/120	-/120/120	-/120/120
<b>Bounding public corridors, public lobbies and the like:</b>				
Loadbearing	90/90/90	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/60/60	-/-/-	-/-/-	-/-/-
<b>Between or bounding sole-occupancy units:</b>				
Loadbearing	90/90/90	120/-/-	180/-/-	240/-/-
Non-loadbearing	-/60/60	-/-/-	-/-/-	-/-/-
<b>Ventilating, pipe, garbage, and the like shafts not used for the discharge of hot products of combustion:</b>				
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-loadbearing	-/90/90	-/90/90	-/120/120	-/120/120
<b>OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES, AND:</b>				
<b>COLUMNS</b>	90/-/-	120/-/-	180/-/-	240/-/-

<b>FLOORS</b>	90/90/90	120/120/120	180/180/180	240/240/240
<b>ROOFS</b>	90/60/30	120/60/30	180/60/30	240/90/60

Notes:

1. Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Specification 11.
2. Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must typically achieve the same FRL. Where that part is also required to be non-combustible, the supporting part must also be non-combustible.
3. A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from; concrete or masonry.
4. The method of attaching or installing a finish, lining, ancillary element, or service installation to a building must not reduce the fire-resistance of that element to below that required.
5. Fire rated shafts are required to be enclosed at the top and bottom by construction having an FRL of not less than what the shaft requires (in both directions)
6. The concession granted under S5C15 results in the roof of the building not being required to be fire rated (the building is provided throughout with sprinklers). Notwithstanding, the Atrium provisions override this general concession in BCA Specification 5.
7. Lift shafts are required to be enclosed at the top of the shaft with fire rated construction having an FRL of 120/120/120.
8. Fire isolated exits are to be provided with a fire rated "lid" that achieves an FRL of 120/120/120.
9. Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.
10. Any loadbearing internal walls or loadbearing fire walls are to be masonry or concrete.
11. External walls must be non-combustible construction. Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.
12. Internal columns in this building (being less than 25m in effective height) that are in the storey immediately below the roof, can be constructed as follows:
  - a. Building with a rise in storeys exceeding 3 – FRL 60/60/60
  - b. *Building with a rise in storeys not exceeding 3 – no FRL*