

BUILDING CODE OF AUSTRALIA ASSESSMENT REPORT

THE STAR – FORMER PART 3A APPROVAL
MP08_0098

SECTION 4.55(2) – MODIFICATION APPLICATION 18

ALTERATIONS AND ADDITIONS TO THE MULTI USE
ENTERTAINMENT FACILITY

Project No.: V220002

Date: 30 March 2022

TABLE OF CONTENTS

1.0 – EXECUTIVE SUMMARY	3
1.1 – INTRODUCTION	3
1.1 – REVISION CONTROL	4
2.0 – BUILDING ASSESSMENT	5
2.1 – BUILDING DESCRIPTION	5
2.2 – DRAWINGS & INFORMATION	6
2.3 – FIRE SAFETY ENGINEERING ALTERNATIVE SOLUTIONS	7
2.4 – NON-FIRE SAFETY RELATED ALTERNATIVE SOLUTIONS	8
3.0 – BUILDING CODE OF AUSTRALIA ASSESSMENT	9
3.1 – STRUCTURE (SECTION B, BCA).....	9
3.2 – FIRE RESISTANCE (SECTION C, BCA)	10
3.2.1 – FIRE RESISTANCE AND STABILITY (PART C1, BCA)	10
3.2.2 – FIRE COMPARTMENTATION AND SEPARATION (PART C2, BCA)	15
3.2.3 – PROTECTION OF OPENINGS (PART C3, BCA)	18
3.2.4 – FIRE RESISTING CONSTRUCTION (SPEC C1.1, BCA)	22
3.3 – ACCESS & EGRESS (SECTION D, BCA).....	24
3.3.1 – PROVISION FOR ESCAPE (PART D1, BCA)	24
3.3.2 – CONSTRUCTION OF EXITS (PART D2, BCA)	28
3.3.3 – ACCESS FOR PEOPLE WITH A DISABILITY (PART D3, BCA).....	34
3.4 – SERVICES AND EQUIPMENT (SECTION E, BCA)	37
3.4.1 – FIRE FIGHTING EQUIPMENT (PART E1, BCA)	37
3.4.2 – SMOKE HAZARD MANAGEMENT (PART E2, BCA).....	40
3.4.3 – LIFT INSTALLATIONS (PART E3, BCA).....	41
3.4.4 – EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS (PART E4, BCA)	43
3.5 – HEALTH AND AMENITY (SECTION F, BCA)	44
3.5.1 – DAMP AND WEATHERPROOFING (PART F1, BCA)	44
3.5.2 – SANITARY FACILITIES (PART F2, BCA)	45
3.5.3 – ROOM SIZES (PART F3, BCA)	47
3.5.4 – LIGHT AND VENTILATION (PART F4, BCA).....	48
3.5.5 – SOUND TRANSMISSION AND INSULATION (PART F5, BCA)	51
3.5.6 – CONDENSATION MANAGEMENT (PART F6, BCA)	51
3.6 – ANCILLARY PROVISIONS (SECTION G, BCA).....	52
3.7 – SPECIAL USE BUILDINGS (SECTION H, BCA).....	53
3.8 – ENERGY EFFICIENCY (SECTION J, BCA).....	54
3.9 – SPECIAL USE BUILDINGS (NSW PART H101 ENTERTAINMENT VENUES, BCA)	55
4.0 – CONCLUSION	68

1.0 – Executive Summary

1.1 – Introduction

The purpose of this report is to assess the documentation as provided (and referenced) within this report against the ‘deemed-to-satisfy’ provisions of the Building Code of Australia 2019 Amendment 1 (BCA) including any NSW variations.

The proposed modifications involve the development involves the alterations and additions to the multi-use Entertainment Facility to The Star and consisting of:

1. A main auditorium having a seating capacity of 1550 seats
2. A Live room having a seating capacity 850 seats

This report has been prepared to assess the Multi Use Entertainment Facility contained within Levels 3 – 6 of The Star.

Prepared by:

Vic Lilli
Building Surveyor
VLP Consulting Pty Ltd

Date: 30 March 2022

1.1 – Revision Control

Revision No.	Issue Date	Report Details	
1	20.01.2022	Description:	Draft BCA Assessment Report
		Prepared by:	Vic Lilli
2	17.02.2022	Description:	Updated to identify additional performance solutions and total occupant numbers
		Prepared by:	Vic Lilli
3	30.03.2022	Description:	Update to reference DA architectural drawings
		Prepared by:	Vic Lilli

2.0 – Building Assessment

2.1 – Building Description

<i>Use/Classification</i>	Class 9b – Assembly Building and considered to be an Entertainment Venue For the purpose of this report the classification is limited to Levels 3 – 6 which contains the new Entertainment Venue
<i>Type of Construction</i>	Type A Construction required
<i>Rise in Storeys</i>	The existing building has a rise of 14 storeys
<i>Storeys Contained</i>	The existing building contains 19 storeys
<i>Floor Area/Volume limitations</i>	Class 9b – Maximum floor area – 8,000m ² Class 9b – Maximum volume— 48,000m ³ Building is considered as a large-isolated building in accordance with Clause C2.3 of the BCA
<i>Populations</i>	Population has been determined in accordance with Clause D1.13 of the BCA as advised by the operators of the venue: 1. Main auditorium having a seating capacity of 1550 seats 2. Live room having a seating capacity 850 seats 3. Staff and performers – 350 persons Total capacity – 2750 9ersons
<i>Effective Height</i>	The existing building has an effective height of more than 50m
<i>Climate zone</i>	For the purpose of Section J the climate zone is Zone 5

2.2 – Drawings & Information

This report is prepared on the assessment of architectural drawings provided by Altis Architecture

Drawing No.	Drawing title	Revision	Date
A1103	Level 2 – Orchestra	E	01.12.2021
DA0000	Cover Sheet and Location Plan	B	11.02.2022
DA0001	Site Analysis Plan	B	11.02.2022
DA1130	Proposed Plan – L02 – Orchestra Pit	C	09.03.2022
DA1140	Proposed Plan – L03 – Stalls	D	01.12.2021
DA1150	Proposed Plan – L04 – Circle Lobby – Lower Circle	D	09.03.2022
DA1160	Proposed Plan – L05 – Live Room Lobby – Main Auditorium Lobby	D	09.03.2022
DA1170	Proposed Plan – L06 – Live Room Upper – Forestage Grid	D	09.03.2022
DA1180	Proposed Plan – L07 – Loading Gallery – Lower Roof – Extended Plant Room	D	09.30.2022
DA1190	Proposed Plan – Fly Tower – Grid and Roof Levels	D	09.03.2022
DA2100	Proposed Elevations – Whole Site	A	11.02.2022
DA2110	Proposed Elevations		
DA2111	Proposed Elevations		
DA3000	Sections	B	11.02.2022

2.3 – Fire Safety Engineering Alternative Solutions

Prior to the issue of a construction certificate the following variations from deemed to satisfy provisions of the BCA provisions are to be addressed via an alternative solution:

- (1) BCA Clause/Table 3 Specification C1.1 – To permit a reduction in FRLs to structural elements of the existing and new works
- (2) BCA Clause/Table 3 Specification C1.1 – to permit the floor construction to the seating area to both the auditorium and Live Room to not have a FRL
- (3) BCA Clause C2.12 – To permit the emergency equipment contained within plant rooms not to be fire separated from the remainder of the building
- (4) BCA Clause D1.2 (g) – To permit egress from the Entertainment Venue to discharge via another sole-occupancy unit
- (5) BCA Clause D1.3 & NSW H101.15 – To permit the dressing room to Levels 4 and 5 to not be served by two (2) fire-isolated exits and not be separated by construction achieving a FRL of not less than 60/60/60
- (6) BCA Clause D1.4 & D1.5 – To permit extended distance of travel to a point of choice between exits, the distance of travel to a required exit and the distance of travel between exits
- (7) BCA Clause D1.6 – To permit a reduced egress width to serve the Entertainment Venue
- (8) BCA Clause D1.9 – To permit non-fire-isolated stairways to not have a continuous path of travel to the storey that leads to a road or open space
- (9) BCA Clause D2.11 – To permit horizontal exits to account for more than 50% of the required exits
- (10) BCA Clause D2.2, D2.13 – To permit the use of escalators in a required egress path
- (11) BCA Clause E1.4 – To permit the removal of hose reels to serve the whole of the Entertainment Venue
- (12) BCA Clause E1.5 – To permit false floors (subfloor area) under the auditorium seating to not be protected by a sprinkler system
- (13) BCA Table E2.2a – To dispense with smoke exhaust throughout the whole of the Entertainment Venue based on the building being considered as a large-isolated building
- (14) BCA Clause E2.2 – To permit a rationalized smoke exhaust system to serve the Entertainment Venue
- (15) BCA Clause E3.4 – To permit Dressing Rooms to Levels 4 & 5, plant room and store room to Level 6 to be served by an emergency lift which does not serve every level of the building
- (16) BCA Clause E4.5 & E4.7 – To permit the exit signs contained within the auditorium spaces to not be illuminated at all times
- (17) BCA Clause NSW H101.2 – To permit the entertainment venue to not be fire separated from the remainder of the building
- (18) BCA Clause NSW H101.5.3 & H101.10 – To permit the stage to the main auditorium to not be separated by a safety curtain

- (19) BCA Clause NSW H101.7 (a) (iv)– To permit the structural steel supporting the stage tower not to be enclosed by concrete or masonry construction.
- (20) BCA Clause NSW H101.7 (b) (i) – To permit the stage to the main auditorium to not be separated by a proscenium wall having a FRL of 120/120/120 and the proscenium opening not to be protected by a rigid safety curtain
- (21) BCA Clause H101.11.1 – To permit seating in rows to contain 12 seats in lieu of 8 seats
- (22) BCA Clause 101.11.5 – To permit seating in rows to contain 25 seats in lieu of 24 seats
- (23) BCA Clause 101.12 – To permit the auditorium seating to deviate from Table NSW H101.12
- (24) NSW H101.16 – To permit storerooms to not be separated by construction achieving a FRL of not less than 60/60/60

2.4 – Non-fire safety related Alternative Solutions

Prior to the issue of a construction certificate the following deemed to satisfy provisions from the BCA provisions are to be addressed via an alternative solution:

- (1) Performance Requirement FP1.4 – Construction details for the erection of any new external walls to the development
- (2) BCA Clause F3.1 – To permit a reduced ceiling height of less than 2.7m to the upper seating level to the Live Room

3.0 – Building Code of Australia Assessment

3.1 – Structure (Section B, BCA)

Clause	BCA Matter	Comment
B1.1	<u>Structural Provisions</u>	Structural engineer's design and certification is to be provided confirming that the structural design meets all the relevant provisions of the BCA as well as all relevant structural standards.
B1.2		
B1.4	The development is to be designed so the structure will resist loads determined:	All such certification is to be relevant to the Importance Levels and Design Events specified under this section of the BCA 2019 Amendment 1.
B1.5		
B1.6		
	• AS 1170.0/1/-2002, • AS1170.2-2011 • AS 1170.3 – 2011, • AS 1170.4 – 2004 • AS 3700-2018 - Masonry structures • AS 4100-1998 - Steel structures • AS/NZS 4600-2018 - Cold-formed steel structures.	

3.2 – Fire Resistance (Section C, BCA)

3.2.1 – Fire Resistance and Stability (Part C1, BCA)

Clause	Item	Comment
C1.1	<u>Type of Construction</u>	All building elements are required to be constructed in Type A construction All structural loadbearing elements are to achieve the required FRL as specified in Table 3 of Specification C1.1 – Refer to Annexure 1 NB: Applicable Concessions Clause 3.5 – Roof is not required to achieve a FRL on the basis the roof covering is non-combustible As per the Minerva Draft Fire Engineering Concept report reductions in the required FRLs are to be addressed via a Performance Solution
C1.2	<u>Rise in Storeys</u>	The existing building has a rise in storeys of 14
C1.3	<u>Buildings of Multiple classifications</u>	All building elements are to achieve the fire resistance levels (FRLs) as required relevant to, Class 9b for Type A construction with respect to the proposed construction of the theatres
C1.4	<u>Mixed Type of Construction</u>	Applicable FRL for proposed works to be of type A construction for Class 9b portion of the building
C1.5	<u>Two Storey Class 2, 3 and 9c Buildings</u>	Not applicable to the development works
C1.6	<u>Class 4 Parts of Buildings</u>	Not applicable to the development works
C1.7	<u>Open spectator stands and indoor sports stadiums</u>	Not applicable to the development works
C1.8	<u>Lightweight fire rated construction to walls and columns</u> Walls are to be constructed in accordance with Spec C1.8 of BCA 2019 and the manufacturer's specifications. Columns are to be constructed in accordance with the manufacturer's specifications and the gap between the column and protective board filled to a height not less than 1.2m	Where proposing to use lightweight fire rated materials compliance with this part and also the specific manufacturers installation requirements are to be complied with BCA Clause C1.8. The exact systems proposed are to be detailed on the plans, including cross sections and penetration requirements. Their installation is to be strictly in accordance with the manufactures specifications.

C1.9	<u>Performance of external walls in fire</u> In a building required to be of Type A or B construction, the following building elements and their components <u>Must be non-combustible:</u> <u>A</u> • External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation. • The flooring and floor framing of lift pits. • Non-loadbearing internal walls where they are required to be fire-resisting. <u>B</u> • A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in— ➤ a building required to be of Type A construction; and ➤ a building required to be of Type B construction, subject to C2.10, in— (A) a Class 2,3 or 9 building; and (B) a Class 5,6,7 or 8 building if the shaft connects more than 2 storeys. <u>C</u> A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. <u>D</u> The requirements of (a) and (b) do not apply to gaskets, caulking, sealants and damp-proof courses. <u>E</u> The following materials may be used wherever a <i>non-combustible</i> material is <i>required</i>: (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish.	Full details of external wall are required to ensure the wall composition is entirely composed of non-combustible construction
------	--	---

	(iii) Fibrous-plaster sheet (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (vi) Bonded laminated materials where- • each lamina, including any core, is non-combustible; and • each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2mm; and • the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.	
C1.11	<u>Performance of external walls in fire</u> Concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, must comply with Specification C1.11.	Not applicable to the development works
C1.13	<u>Fire-protected timber: Concession</u> <i>Fire-protected timber</i> in a Class 2, 3 or 5 building may be used where ever an element is <i>required</i> to be <i>non-combustible</i>, provided— (a) the building is— (i) a separate building; or (ii) a part of a building— (A) which only occupies part of a <i>storey</i>, and is separated from the remaining part by a <i>fire wall</i>; or (B) which is located above or below a part not containing <i>fire-protected timber</i> and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a <i>fire wall</i> for the lower <i>storey</i>; and (b) the building has an <i>effective height</i> of not more than 25 m; and (c) the building has a sprinkler system throughout complying with Specification E1.5; and	Not applicable to the development works

	(d) any insulation installed in the cavity of the timber building element <i>required</i> to have an FRL is <i>non-combustible</i>; and (e) cavity barriers are provided in accordance with Specification C1.13. Other Areas 1, 2, 3 (walls with sprinklers) 1, 2, 3 (ceilings with sprinklers) Lift cars 1, 2 (walls and ceilings) Air handling duct work is to comply with AS4254. 1, 2, 3 (ceilings with sprinklers)	
C1.14	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 one of the following: (a) An ancillary element that is non-combustible. (b) A gutter, downpipe or other plumbing fixture or fitting. (c) A flashing. (d) A grate or grille not more than 2m² in area associated with a building service. (e) An electrical switch, socket-outlet, cover plate or the like. (f) A light fitting. (g) A required sign. (h) A sign other than one provided under (a) or (g) that— (i) Achieves a group number of 1 or 2; and (ii) Does not extend beyond one storey; and (iii) Does not extend beyond one fire compartment; and (iv) Is separated vertically from other signs permitted under (h) by at least 2 storeys. (i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— (i) Meets the requirements of Table 4 of Specification C1.10 as for an internal element; and (ii) Serves a storey— (A) At ground level; or (B) Immediately above a storey at ground level;	Any ancillary element is to be of non-combustible construction Full details and/or specification of any ancillary element is required to verify compliance

	and (iii) Does not serve an exit, where it would render the exit unusable in a fire. (j) A part of a security, intercom or announcement system. (k) Wiring. (l) A paint, lacquer or a similar finish. (m) A gasket, caulking, sealant or adhesive directly associated with(a) to (k).	
--	---	--

3.2.2 – Fire Compartmentation and Separation (Part C2, BCA)

Clause	Item	Comment
C2.2	<u>Floor Area and Volume Limitations</u>	Class 9b– Max floor area – 8,000m ² Class 9b -max volume— 48,000m ³ Maximum floor area and maximum volumes have not been exceeded for the proposed development works
C2.3	<u>Large Isolated Buildings</u>	The building is considered as a large-isolated building and required to be protected with a sprinkler system and a smoke exhaust system throughout.
C2.4	<u>Requirement for open spaces and vehicular access</u>	Not applicable to the development works
C2.5	<u>Class 9a and 9c Buildings</u>	Not applicable to the development works
C2.6	<u>Vertical separation of openings in external walls</u> If in a building of Type, A construction, any part of a window or other opening in an external wall is above another opening in the storey next below and its vertical projection falls no further than 450 mm outside the lower opening (measured horizontally), the openings must be separated by— (i) a spandrel which— (A) is not less than 900 mm in height; and (B) extends not less than 600 mm above the upper surface of the intervening floor; and (C) is of non-combustible material having an FRL of not less than 60/60/60; or (ii) part of a curtain wall or panel wall that complies with (i);or (iii) construction that complies with (i) behind a curtain wall or panel wall and has any gaps packed with a non-combustible material that will withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke; or (iv) a slab or other horizontal construction that— (A) projects outwards from the external face of the wall not less than 1100 mm; and	Not applicable to the development works given the building is protected with a sprinkler system in accordance with Clause E1.5 and AS2118.1

	(B) extends along the wall not less than 450 mm beyond the openings concerned; and (C) is non-combustible and has an FRL of not less than 60/60/60.	
C2.7	<u>Firewalls</u> Fire walls installed for fire compartmentation purposes are required have the higher FRL as specified under Specification C1.1 for the classifications concerned, extend to the underside of a floor/roof slab of an equivalent FRL or the underside of a roof covering.	Fire walls are to achieve a FRL of not less than 120/120/120. All detail drawings are to ensure compliance in this regard
C2.8	<u>Separation of classifications in same storey</u>	Not applicable to this building
C2.9	<u>Separation of classification in different stories</u>	Not applicable to this building
C2.10	<u>Separation of lift shafts</u> (a) Any lift connecting more than 2 storeys, or more than 3 storeys if the building is sprinklered, (other than lifts which are wholly within an atrium) must be separated from the remainder of the building by enclosure in a shaft in which— (i) in a building required to be of Type A construction— the walls have the relevant FRL prescribed by Specification C1.1; and (ii) in a building required to be of Type B construction — the walls— (A) if loadbearing, have the relevant FRL prescribed by Table 4 of Specification C1.1; or (B) if non-loadbearing, be of non-combustible construction. (b) Any lift in a patient care area in a Class 9a health-care building or a resident use area in Class 9c building must be separated from the remainder of the building by a shaft having an FRL of not less than— (i) in a building of Type A or B construction — 120/120/120; or (ii) in a building of Type C construction — 60/60/60.	Refer to Specification C1.1 for relevant FRL's for shafts • The lift shaft is expected to have an FRL of 120/120/120 if loadbearing and --/120/120 if non-loadbearing • The lift landing doors are to achieve an FRL of --/60/-.

	(c) An emergency lift must be contained within a fire-resisting shaft having an FRL of not less than 120/120/120. (d) Openings for lift landing doors and services must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C3.	
C2.11	<u>Stairways and lifts in one shaft</u> A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	Details show compliance has been achieved.
C2.12	<u>Separation of equipment</u> The following equipment is to be fire isolated from the building with construction having an FRL not less than 120/120/120, doors accessing the spaces are to be self-closing –/120/30 fire doors: • Lift motors and lift control panels • Emergency generators or central smoke control plant • Boilers • Batteries • On-site fire pumps	Any such equipment must be separated from remainder of the building as per BCA Clause C2.12 All detail drawings are to ensure compliance in this regard
C2.13	<u>Electricity supply system</u> Substations, electrical conductors and main switchboards that are required to sustain power to essential equipment operating in emergency mode is to be fire isolated from the remainder of the building with construction having a minimum of FRL of 120/120/120.	The proposed development works do not propose any new main switchboards
C2.14	<u>Public Corridors in Class 2 and 3 buildings</u>	Not applicable to this building

3.2.3 – Protection of Openings (Part C3, BCA)

Clause	Item	Comment
C3.1	<u>Application of Part</u> This part is applicable to all openings in the external walls of the building (e.g. doors, windows, etc) and includes openings formed in the vertical plane of the building between floors and columns. This part also applies to penetrations in fire rated elements of the building (e.g. bounding fire rated construction and floors) except for penetrations between floors of car park levels	Compliance is to be achieved
C3.2	<u>Protection of openings in external walls</u> Openings in the external walls of the building are required to be 'protected' per C3.4 below where they are located within 3.0m of the allotment boundary or 6.0m of the far boundary of a road adjoining the allotment.	Not applicable to the development works
C3.3	<u>Separation of external wall and opening in different fire compartments</u> Wall and opening elements of external walls of the building are required to be protected with construction having an FRL not less than 60/60/60 or the openings are required to be protected as per C3.4	Not applicable to the development works
C3.4	<u>Acceptable methods of protection</u> (a) Where protection is required, doorways, windows and other openings must be protected as follows: (i) Doorways— (A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (b) –/60/30 fire doors that are self-closing or automatic closing. (ii) Windows—	The development does not contain openings exposed to a fire source feature which require protection

	(A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position;	
C3.5	<u>Doors in fire walls</u> Doors in fire walls are required to occupy no more than $\frac{1}{2}$ the total area of the wall and be protected with self or automatic fire doors or fire rated shutter of $-(FRL)/30$ or 2 doors facing one another of $-(\frac{1}{2} FRL)/30$.	Doorways to fire walls are to be either self-closing or automatic fire doors with an FRL of not less than $-(120)/30$. All detail drawings are to ensure compliance in this regard
C3.6	<u>Sliding fire doors</u>	Not applicable to the development works
C3.7	<u>Protection of doorways in horizontal exits</u>	Not applicable to the development works
C3.8	<u>Openings in fire isolated exits</u> (a) Doorways that open to <i>fire-isolated stairways, fire-isolated passageways or fire-isolated ramps</i>, and are not doorways opening to a road or <i>open space</i>, must be protected by $-(60)/30$ fire doors that are <i>self-closing</i>, or <i>automatic-closing</i> in accordance with (b) and (c). (b) The <i>automatic-closing</i> operation <i>required</i> by (a) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway. (c) Where any other <i>required</i> suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification E1.5, is installed in the building, activation of the system must also initiate the <i>automatic-closing</i> operation. (d) A <i>window</i> in an <i>external wall</i> of a <i>fire-isolated stairway, fire-isolated passageway or fire-isolated ramp</i> must be protected in accordance with C3.4 if it is within 6m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure	Existing fire-isolated exits are not proposed to be modified

C3.9	<u>Service penetrations into fire isolated exits</u> Fire-isolated <i>exits</i> must not be penetrated by any services other than— (a) electrical wiring permitted by D2.7(e) to be installed within the <i>exit</i>; or (b) ducting associated with a pressurisation system if it— (i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and (ii) does not open into any other part	Not applicable to the development works
C3.10	<u>Openings in fire isolated lift shafts</u> All doors to fire isolated lift shafts are to be protected by FRL –/60/– fire doors complying with AS1735.11 which remain closed except for when persons are entering or exiting the lift car. All panels (lift call, indicator, etc) are to be backed by construction with FRL –/60/60 if > 35000mm² in area.	Any new lift shafts are to be fitted with lift landing doors (on each level of the building) that are capable of achieving a minimum FRL of –/60/– in accordance with AS 1735.11-1986; and - The lift landing doors are to be set to remain in the closed position except when discharging or receiving passengers; and - any openings into the lift shaft that has an opening area of greater than 35,000 mm² is to be backed by construction achieving a minimum FRL of –/60/60. All detail drawings are to ensure compliance in this regard.
C3.11	<u>Bounding construction: Class 2, 3 and 4 buildings</u> Doorways to class 2 & 3 buildings are to be protected if access from a SOU is to a public corridor, a room not within a SOU, landing of internal non fire-isolated stairway serving as a required exit, another SOU.	Not applicable.
C3.12	<u>Openings in floors and ceilings for services</u> This clause and it's specification offer a range of suitable protections to be installed about service penetrations through fire rated elements (e.g. fire collars, fire dampers, etc). Reference should be made to this clause for detail.	All openings through the buildings fire rated floor and wall systems are to be protected in accordance with BCA Clause C3.12. Alternatively, where permitted, they are to be fire stopped at the floor in accordance with BCA Clause C3.15. Note 1: Details regarding the type and use of specific fire safety products are to be verified for compliance. Details are to include data sheets as well as fire test reports of compliance achieved in accordance with AS1530.4-2005. This can be provided upon request from the manufacturer/supplier.
C3.13	<u>Openings in shafts</u>	All openings into the buildings fire rated shafts (ventilating, pipe, or other service shaft) are to be protected as appropriate

	Openings into shaft walls containing garbage, ventilating, pipe or other service are to be provide with self-closing – /60/30 fire door or hopper, –/60/30 access panel or if in a sanitary compartment a door or panel of –/30/30 or a door and frame of non-combustible construction	Design details are to include for the provision of compliant fire protected openings.
C3.16	<u>Construction Joints</u> Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.	Construction joints between fire-rated building elements are to be “fire-stopped” by materials having the same fire resistance level as the element they are to be installed into. The method used is to be identical with an AS 1530.4-2005 tested prototype. All detail drawings are to ensure compliance in this regard.
C3.17	<u>Columns protected with lightweight construction to achieve an FRL</u> A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	All detail drawings are to ensure compliance in this regard if applicable

3.2.4 – Fire Resisting Construction (Spec C1.1, BCA)

Clause	Item	Comment
Spec C1.1	<u>Fire Resisting Construction</u> Type A buildings are required to be of fire resisting compartmentalized construction. For the most part a building of concrete floor and column with masonry wall (internal and external) construction will generally comply. (Note Fire Source Features (FSF) in this instance are to the boundaries of the site and the far boundary of the adjacent public roadways)	All designs are to ensure that the necessary FRLs are attained subject to the following notes. - Any building elements that support another required to have an FRL is to have the same FRL. - Non-combustible structures on the roof for the plant such as ventilation and air conditioning, window cleaning equipment, other non-combustible service units not containing combustible liquids or gases, etc are not required to be fire rated. - All shafts are to be enclosed top and bottom by construction with FRL not less than –/120/120 except if the shaft extends through the roof covering. Exemption does not apply to fire isolated stairs. - External walls, fire walls and the floor and floor framing are to be non-combustible. - All internal walls requiring an FRL are to extend to the underside of the floor above or to or through the roof (see above shafts). - All loadbearing internal walls and fire walls are to be of concrete or masonry. Non-loadbearing internal walls and shaft walls are to be of non-combustible construction As per the Minerva Draft Fire Engineering Concept report reductions in the required FRLs are to be addressed via a Performance Solution.

Spec C1.1: Fire Resisting Construction

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

3.3 – Access & Egress (Section D, BCA)

3.3.1 – Provision for escape (Part D1, BCA)

Clause	Item	Comment
D1.2	<u>Number of exits required</u> A minimum of two (2) exits are to be provided from any basement level. A minimum of two (2) exit is to be provided from; a) Each storey in a primary or secondary school with a rise in storeys of 2 or more. b) any storey or mezzanine that accommodates more than 50 persons, calculated under D1.13.	Assessment of the architectural drawings show compliance has been achieved with the exception of the dressing room to Level 4. The non- compliance will be addressed via a performance based approach.
D1.3	<u>Fire Isolation of Exits</u> Class 9b: Every stairway or ramp serving as a required exit must be fire-isolated if it connects or passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if— (A) the building has a sprinkler system complying with Specification E1.5 installed throughout; or (B) the required exit does not provide access to or egress for, and is separated from, the extra storey by construction having— (aa) an FRL of –/60/60, if non-loadbearing; and (bb) an FRL of 90/90/90 for Type A construction or 60/60/60 for Type B construction, if loadbearing; and (cc) no opening that could permit the passage of fire or smoke.	Existing fire-isolated exits are not proposed to be modified

D1.4	<u>Exit travel Distances</u> <u>Class 9b:</u> The maximum travel distance to an exit or point in choice in travel is not to exceed 20m and the total travel to one of those exits is not to exceed 40m	Assessment of the architectural drawings identifies travel distances are in excess of BCA requirements with respect to distance to an alternate exit being in excess of 20m and to a required exit being in excess of 60m. As per the Minerva Draft Fire Engineering Concept report extended distances of travel are to be addressed via a Performance Solution.
D1.5	<u>Distance between alternate exits</u> Exits to the floors are to be distributed as uniformly as practicable, not < 9.0m apart, not >45m in Class 2 and 3 buildings, > 60m apart in Class 5,6, 7, and the paths of travel to exits are not to converge so that they become less than 6.0m apart.	Assessment of the architectural drawings identifies travel distances are in excess of BCA requirements with respect to distance between alternate exits being in excess of 60m. As per the Minerva Draft Fire Engineering Concept report extended distances of travel are to be addressed via a Performance Solution.
D1.6	<u>Dimensions of exits and paths of travel</u> All paths of travel and exit routes are to be: 2.0m in clear height (noting ceiling height requirements under F3.1 below) - A minimum 1.0m in clear unobstructed width. In relation to the unobstructed width of stairs, it is to be the dimension between the handrail and the opposing wall/handrail. Doors may reduce egress widths to 1980mm in height and 750mm of clear unobstructed width. Note that where disabled access is required this is to be 850mm of clear width.	In buildings of this type, all exits and paths of travel to the buildings exits are to achieve a minimum unobstructed height of not less than 2.0 metres (except the height of a doorway may be reduced to not less than 1980 mm) with a minimum unobstructed width of not less than 1000 mm. Based on the total occupant numbers of 2750 occupants, a required egress width of 27.5m is required for the Venue. As per the Minerva Draft Fire Engineering Concept report extended distances of travel are to be addressed via a Performance Solution.
D1.7	<u>Fire isolated exits</u> (a) A doorway from a room must not open directly into a stairway, passageway or ramp that is <i>required</i> to be fire-isolated unless it is from— - a <i>public corridor</i>, public lobby or the like; or - a <i>sole-occupancy unit</i> occupying all of a <i>storey</i>; or - a <i>sanitary compartment</i>, airlock or the like. (b) Each <i>fire-isolated stairway</i> or <i>fire-isolated ramp</i> must provide independent egress from each <i>storey</i> served and	Existing fire-isolated exits are not proposed to be modified

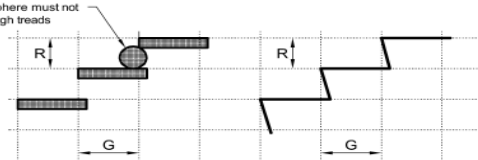
discharge directly, or by way of its own <i>fire-isolated passageway</i>— (i) to a road or <i>open space</i>; or (ii) to a point— (A) in a <i>storey</i> or space, within the confines of the building, that is used only for pedestrian movement, carparking or the like and is open for at least 2/3 of its perimeter; and (B) from which an unimpeded path of travel, not further than 20 m, is available to a road or <i>open space</i>; or (iii) into a covered area that— (A) adjoins a road or <i>open space</i>; and (B) is open for at least 1/3 of its perimeter; and (C) has an unobstructed clear height throughout, including the perimeter openings, of not less than 3 m; and (D) provides an unimpeded path of travel from the point of discharge to the road or <i>open space</i> of not more than 6 m. (c) Where a path of travel from the point of discharge of a fire-isolated <i>exit</i> necessitates passing within 6 m of any part of an <i>external wall</i> of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have— (i) an FRL of not less than 60/60/60; and (ii) any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. (d) If more than 2 access doorways, not from a <i>sanitary compartment</i> or the like, open to a <i>required</i> fire-isolated <i>exit</i> in the same <i>storey</i>— (i) a smoke lobby in accordance with D2.6 must be provided; or (ii) the <i>exit</i> must be pressurised in accordance with AS 1668.1. (e) A ramp must be provided at any change in level less than 600 mm in a <i>fire-isolated passageway</i> in a Class 9 building.	
---	--

D1.8	<u>External Stairs In lieu of Fire Isolated Stairs</u>	Not applicable.
D1.9	<u>Travel by non-fire-isolated stairways or ramps</u> Continuous means of travel and discharge to road or open space	Travel by non-fire-isolated stairways does not achieve compliance as the stairways do not provide a continuous path of travel to the storey at which egress to road or open space is provided As per the Minerva Draft Fire Engineering Concept report travel via non-fire-isolated exits is to be addressed via a Performance Solution.
D1.10	<u>Discharge from exits</u> Bollards or other suitable barriers are to be provided to ensure that exits must are not blocked by parked vehicles. Be located as far apart as practical. Required exit widths must be maintained between the discharge point of the exits and the roadway and the path connecting the exit to the road must have stairs and/or ramps connecting it.	Not applicable to the development works
D1.11	<u>Horizontal Exits</u> Horizontal exits must not form more than 50% of the required exits to the storey	The design proposes to utilize horizontal exits and the horizontal exits may potentially form more than 50% of the exits. Where compliance is not achieved a performance, based approach will be required to address the non-compliances.
D1.12	<u>Non-Required, Ramps, Stairs and Escalators</u>	Not applicable to the development works
D1.13	<u>Populations</u>	1. Main auditorium having a seating capacity of 1550 seats 2. Live room having a seating capacity 850 seats Total of 2400 occupants
D1.16	<u>Plant rooms and lift machine rooms- concessions</u> Ladders may be used for plant rooms less than 100m ² in area or all but one access point for plant rooms up to 200m ²	Access to plant rooms is to be designed to ensure compliance with AS1657-2018
D1.17	<u>Access to Lift Pits</u> Where the pit depth is greater than 3.0m access to the pit must be provided in accordance with the provisions of clause D1.17 (b)	All detail drawings are to ensure compliance in this regard.
D1.18	<u>Egress from early childhood centres</u>	Not applicable

3.3.2 – Construction of exits (Part D2, BCA)

Clause	Item	Comment
D2.2	<u>Fire-isolated stairs and ramps</u> A stairway or ramp (including any landings) that is <i>required</i> to be within a <i>fire-resisting shaft</i> must be constructed— (a) of <i>non-combustible</i> materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the <i>shaft</i> .	Existing fire-isolated exits are not proposed to be modified
D2.3	<u>Non-Fire-isolated stairs and ramps</u> Materials are to be either reinforced concrete, steel with a minimum finished thickness of 6mm or timber with a minimum finished thickness of 44mm has an average density of not less than 800 kg/m ³ at a moisture content of 12%; and has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue	All detail drawings are to ensure compliance in this regard.
D2.4	<u>Separation of rising and descending flights</u>	Existing fire-isolated exits are not proposed to be modified
D2.5	<u>Open Access Ramps and Balconies</u>	Not applicable to the development works
D2.6	<u>Smoke Lobbies</u>	Not applicable to the development works
D2.7	<u>Installations in exits and paths of travel</u> Access to service shafts and services other than fire fighting equipment is not permitted from fire isolated exits. Gas or other fuel services must not be installed within 'required exits'. Where electricity meters, distribution boards or ducts, central telecommunication distribution boards or equipment or electrical or other motors serving the building are located in corridors, hallways or the like leading to an exit they are to be enclosed in non-combustible construction or a fire protective covering with doorways and openings suitably sealed against smoke spreading from the enclosure.	Electrical distribution boards located in the path of travel are to be smoke separated in accordance with BCA Clause D2.7

D2.8	<u>Enclosures under stairs and ramps</u> The enclosure of spaces under non-fire isolated stairs are to be separated by construction achieving a FRL of not less than 60/60/60 and doorways protected by self-closing fire doors achieving a FRL of –/60/30.	All detail drawings are to ensure compliance in this regard.
D2.9	Width of stairs. A required stairway or ramp that exceeds 2m in width is counted as having a width of only 2m unless it is divided by a handrail or barrier continuous between landings and each division has a width of not more than 2m.	All stairways are to comply as required.
D2.10	<u>Pedestrian ramps</u> A fire-isolated ramp may be substituted for a fire-isolated stairway if the construction enclosing the ramp and the width and ceiling height comply with the requirements for a fire-isolated stairway A ramp serving as a required exit must where the ramp is also serving as an accessible ramp under Part D3, be in accordance with AS 1428.1 or in any other case, have a gradient not steeper than 1:8. The floor surface of a ramp must have a non-slip finish.	All detail drawings are to ensure compliance in this regard.
D2.11	<u>Fire Isolated Passageways</u>	Not applicable to the development works
D2.12	Roof as Open Space	Not applicable to the development works
D2.13	<u>Goings and Risers</u> The goings and risers of the stairs to: 1. Be within the dimensional limitations of BCA Table D2.13. 2. Have not > 18 risers per flight 3. If open risers have not >125mm between treads. 4. Be of solid construction.	All stairways are to comply as required. All stairways are to have a non-slip surface or a non-slip nosing strip in accordance with BCA Table D2.14 and AS 4586-2013. In addition, the external steps are to be designed in accordance with Clause 11 and Clause 12 of AS 1428.1-2009. All detail drawings are to ensure compliance in this regard.

	5. Have a non-slip finish or be provided with non-skid strips near the edge of the nosings.	<table><tr><th colspan="7">Table D2.13 RISER AND GOING DIMENSIONS (mm)</th></tr><tr><th></th><th colspan="2">Riser (R)</th><th colspan="2">Going (G) ⁽²⁾</th><th colspan="2">Quantity (2R+G)</th></tr><tr><th></th><th>Max</th><th>Min</th><th>Max</th><th>Min</th><th>Max</th><th>Min</th></tr><tr><td>Public stairways</td><td>190</td><td>115</td><td>355</td><td>250</td><td>700</td><td>550</td></tr><tr><td>Private stairways⁽¹⁾</td><td>190</td><td>115</td><td>355</td><td>240</td><td>700</td><td>550</td></tr></table> 	Table D2.13 RISER AND GOING DIMENSIONS (mm)								Riser (R)		Going (G) ⁽²⁾		Quantity (2R+G)			Max	Min	Max	Min	Max	Min	Public stairways	190	115	355	250	700	550	Private stairways ⁽¹⁾	190	115	355	240	700	550
Table D2.13 RISER AND GOING DIMENSIONS (mm)																																					
	Riser (R)		Going (G) ⁽²⁾		Quantity (2R+G)																																
	Max	Min	Max	Min	Max	Min																															
Public stairways	190	115	355	250	700	550																															
Private stairways ⁽¹⁾	190	115	355	240	700	550																															
D2.14	<u>Landings</u> The landings of stairs are to: 1. Have a cross fall not greater than 1 in 50 2. Be not less than 750mm long. 3. Have a non-slip finish or be provided with non-skid strips near the edge of the nosings.	All stairways are to comply as required. All landings are to have a non-slip surface or a non-slip nosing strip in accordance with BCA Table and AS 4586-2013. All detail drawings are to ensure compliance in this regard.																																			
D2.15 NSW D2.15	<u>Thresholds</u> Steps at doorways from internal spaces on the building to external areas are to be not greater than 50mm (step permitted only where the internal space is higher). Note that some doors require AS1428.1 compliant threshold ramps may be required where disabled access is required. No threshold step or ramp of any dimension is permitted to internal doorways at point from the doorway less than the width of the door leaf.	All stairways are to comply as required. All detail drawings are to ensure compliance in this regard.																																			
D2.16	<u>Balustrades</u> Balustrades are required where the height change between to levels is greater than 1000mm. Balustrades to the building are to be as follows: <i>Balconies, non-fire isolated stairs and other locations</i> 1. Be not less than 1000mm high above landings and 865mm above the nosings of stairs. 2. Have openings not > 125mm.	All balustrades and barriers are to comply as required. All detail drawings are to ensure compliance in this regard. Notes: 1. It is not permissible to have frameless glass balustrades under AS1288 – 2006.																																			

	3. Where the change in level is >4.0m it must not contain horizontal elements between 150mm and 760mm above the floor level that can facilitate climbing. 4. Windows to floors where the change in level is >4.0m must not have openable portions less than 865mm above the floor level. All balustrades are to be designed to ensure compliance with AS1170.1 or AS/NZS 1170.1. Furthermore, we note that particular requirements are applicable under D2.16 (h) and Table D2.16 in relation to wire balustrades. Loading docks are exempted from needing to meet these requirements.	
D2.17	<u>Handrails</u> Each flight of stairs are to be fitted with at least one (1) handrail for fire isolated stairs and at least two handrails for non-fire isolated exits.	All stairways are to comply as required. All stairways are to be provided with handrails on both sides of the stairway in accordance with Clause 11 and Clause 12 of AS 1428.1-2009. All detail drawings are to ensure compliance in this regard.
D2.18	<u>Fixed platforms, walkways, stairways and ladders</u> All platforms, walkways, stairways and ladders within the plant areas are to be designed in accordance with AS1657 or the stair, landing and balustrade requirements as above.	All detail drawings are to ensure compliance in this regard.
D2.19	<u>Doorways and doors</u> Doors serving as exits are to be swinging doors except that power sliding doors can be used where it opens directly to a road or open space, capable of being manually opened under a force not > 110N upon a power malfunction and will automatically open on power failure or activation of the fire services in the building.	Details generally indicate that the exits to be the building will be served by swinging doors. Power operated doors serving as exits are to failsafe open in the event of power failure or on detection of smoke or activation of the sprinkler system All detail drawings are to ensure compliance in this regard.

D2.20	<u>Swinging doors</u> All exit doors are required to swing in the direction of egress. Any swinging door must not encroach into the required width of an exit by more than 500mm and when fully open encroach by greater than 100mm.	The final exit doors swing in the direction of egress from the building as required. All detail drawings ensure compliance in this regard.
D2.21	<u>Operation of latch.</u> All exit doors and doors in the path of travel to exits are to be provided with lever action door furniture or panic bars located 900mm to 1.1m above the floor level which do not require a key to operate them on the side that a person would be seeking egress from the building. Where security is required to the doors there may be locked provided that they are fitted with a 'fail safe' device (e.g. an electronic strike) which opens/releases on activation of the smoke detection or sprinkler systems installed throughout the building.	The BCA requires that all exit doors and doors in the path of travel to an exit are to be fitted with single handed action (downward) door hardware positioned at a height of between 900 mm – 1100 mm above finished floor level. In addition, door hardware levers are to: a) be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and b) have a clearance between the handle and the back of the plate or door face at the centre of the grip section of the handle of not less than 35 mm and not more than 45 mm. All detail drawings are to ensure compliance in this regard.
D2.22	<u>Re-entry from fire isolated exits</u>	Not applicable to the development works
D2.23	<u>Signs on doors</u> Doors accessing fire isolated exits and in horizontal exits are to be provided with 20mm high lettering of a colour contrasting to the background stating 'FIRE DOOR, DO NOT OBSTRUCT, DO NOT KEEP OPEN'. Doors discharging fire isolated stairs are to be provided with 20mm high lettering of a colour contrasting to the background stating 'FIRE SAFETY DOOR, DO NOT OBSTRUCT'.	Signage to be provided as specified by BCA Clause D2.23
D2.24	<u>Protection of openable windows</u> Window openings must be provided with protection, if the floor below the window is 2m or more above the surface beneath it, in a bedroom in a Class 2 or 3 building or Class 4 part of a building; or a Class 9b early childhood centre.	Not applicable to the development works

D2.25	<u>Timber stairways – concession</u> (a) Notwithstanding D2.2(a), timber treads, risers, landings and associated supporting framework which— (i) has a finished thickness of not less than 44 mm; and (ii) has an average density of not less than 800 kg/m³ at a moisture content of 12%, may be used within a <i>required fire-isolated stairway</i> or <i>fire-isolated passageway</i> constructed from <i>fire-protected timber</i> in accordance with C1.13 subject to— (iii) the building being protected throughout by a sprinkler system (other than a FPAA101D system) complying with Specification E1.5 which extends to within the fire-isolated enclosure; and (iv) fire protection being provided to the underside of stair <i>flights</i> and landings located immediately above a landing level which— (A) is at or near the level of egress; or	Not applicable to the development works
-------	---	---

3.3.3 – Access for people with a disability (Part D3, BCA)

Clause	Item	Comment
D3.1, D3.2 & D3.3	<u>General access requirements & parts required to be accessible</u> Buildings and parts of buildings must be accessible as required by BCA Table D3.1 and Clause D3.1 Class 9b: To and within all areas normally used by the occupants. To wheelchair seating spaces provided in accordance with D3.9. To and within all other areas normally used by the occupants, except that access need not be provided to tiers or platforms of seating areas that do not contain wheelchair seating spaces	The development is subject to requirements contained within BCA Part D3, AS 1428.1-2009 and the <i>Premises Standards</i>. All detail drawings or specifications are to ensure compliance in this regard. It is recommended that a suitably qualified access consultant is appointed to ensure the buildings comply with the applicable provisions. This report does not assess disabled access compliance.
D3.4	<u>Exemptions</u> The following areas are not <i>required</i> to be <i>accessible</i>: (a)An area where access would be inappropriate because of the particular purpose for which the area is used. (b)An area that would pose a health or safety risk for people with a disability. (c)Any path of travel providing access only to an area exempted by (a) or (b).	Areas within the back of stage may be subject to exemption for compliance.
D3.5	<u>Accessible Carparking</u> A carparking area on the same allotment as a building required to be accessible. 1 space for every 100 carparking spaces or part thereof.	Not applicable to the development works
D3.6	<u>Signage</u> Accessible signage is required in the building as per Clause D3.6, Specification D3.6 and AS/NZS 1428.1	All detail drawings are to ensure compliance with BCA Clause D3.6
D3.7	Hearing augmentation	All detail designs are to ensure compliance with BCA Clause D3.7

	(a) A hearing augmentation system must be provided where an inbuilt amplification system, other than one used only for emergency warning, is installed— (i) in a room in a Class 9b building; or (ii) in an auditorium, conference room, meeting room or room for judicatory purposes; or (iii) at any ticket office, teller's booth, reception area or the like, where the public is screened from the service provider. (b) If a hearing augmentation system required by (a) is— (i) an induction loop, it must be provided to not less than 80% of the floor area of the room or space served by the inbuilt amplification system; or (ii) a system requiring the use of receivers or the like, it must be available to not less than 95% of the floor area of the room or space served by the inbuilt amplification system, and the number of receivers provided must not be less than— (A) if the room or space accommodates up to 500 persons, 1 receiver for every 25 persons or part thereof, or 2 receivers, whichever is the greater; and (B) if the room or space accommodates more than 500 persons but not more than 1000 persons, 20 receivers plus 1 receiver for every 33 persons or part thereof in excess of 500 persons; and (C) if the room or space accommodates more than 1000 persons but not more than 2000 persons, 35 receivers plus 1 receiver for every 50 persons or part thereof in excess of 1000 persons; and (D) if the room or space accommodates more than 2000 persons, 55 receivers plus 1 receiver for every 100 persons or part thereof in excess of 2000 persons. (c) The number of persons accommodated in the room or space served by an inbuilt amplification system must be calculated according to D1.13. (d) Any screen or scoreboard associated with a Class 9b building and capable of displaying public announcements	
--	---	--

	must be capable of supplementing any public address system, other than a public address system used for emergency warning purposes only.	
D3.8	<u>Tactile indicators</u> AS1428.4 tactile ground surface indicators are to be provide to all public accessible stairs, ramps and where overhead obstructions reduce below 2000mm in height.	Tactile indicators are required to all internal stairs, stairs used for emergency egress only will not require tactile indicators All detail drawings are to ensure compliance with BCA Clause D3.8
D3.9	<u>Wheelchair seating in Class 9b assembly parts</u>	All detail drawings are to ensure compliance with BCA Clause D3.8
D3.10	<u>Swimming pools</u>	Not applicable to the subject development works
D3.11	<u>Ramps</u> On an accessway, a series of connected ramps must not have a combined vertical rise of more than 3.6m and a landing for a step ramp must not overlap a landing for another step ramp or ramp.	All detail drawings are to ensure compliance with BCA Clause D3.8
D3.12	<u>Glazing on an accessway</u> On an <i>accessway</i> , where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.	All detail drawings or specifications are to ensure compliance in this regard.

3.4 – Services and Equipment (Section E, BCA)

3.4.1 – Fire Fighting Equipment (Part E1, BCA)

Clause	Item	Comment
E1.3	<u>Fire Hydrants</u> (a) A fire hydrant system must be provided to serve a building— (i) having a total <i>floor area</i> greater than 500 m²; and (ii) where a <i>fire brigade station</i> is— (A) no more than 50 km from the building as measured along roads; and (B) equipped with equipment capable of utilising a fire hydrant. (b) The fire hydrant system— (i) must be installed in accordance with AS 2419.1, except— (A) a Class 8 <i>electricity network substation</i> need not comply with clause 4.2 of AS 2419.1 if— (aa) it cannot be connected to a town main supply; and (bb) one hour water storage is provided for fire-fighting; and (B) where a sprinkler system is installed throughout a building in accordance with AS 2118.1, AS 2118.4, AS2118.6, FPAA101H or FPAA101D the fire hydrant booster protection requirements of clauses 7.3(c)(ii) and 7.3(d)(iii) of AS 2419.1 do not apply; and (C) a fire hydrant booster assembly may be located between 3.5 m and 10 m of the building, and need not comply with clause 7.3(d)(iii) of AS 2419.1 where the assembly is protected by an adjacent fire-rated freestanding wall that— (aa) achieves an FRL of not less than 90/90/90; and	Fire hydrants are required by the BCA as the building has a total floor area of more than 500m² and installation to comply with Australian Standard AS 2419.1-2005 The existing fire hydrant system is to be assessed and designed to ensure the system maintains compliance with AS 2419.1-2005. Certification from an accredited fire services engineer to be provided at the Construction Certificate stage.

	(bb)extends not less than 1 m each side of the outermost fire hydrant booster risers within the assembly and is not less than 3 m wide; and (cc)extends to a height of not less than 2 m above finished ground level; and (ii)where internal fire hydrants are provided, they must serve only the <i>storey</i> on which they are located except that a <i>sole-occupancy unit</i>— (A)in a Class 2 or 3 building or Class 4 part of a building may be served by a single fire hydrant located at the level of egress from that <i>sole-occupancy unit</i>; or (B)of not more than 2 <i>storeys</i> in a Class 5, 6, 7, 8 or 9 building may be served by a single fire hydrant located at the level of egress from that <i>sole-occupancy unit</i> provided the fire hydrant can provide coverage to the whole of the <i>sole-occupancy unit</i>.	
E1.4	<u>Fire Hose Reels</u> (a) E1.4 does not apply to— (i) a Class 2, 3 or 5 building or Class 4 part of a building; or (ii) a Class 8 <i>electricity network substation</i>; or (iii) a Class 9c building; or (iv) classrooms and associated corridors in a primary or secondary <i>school</i>. (b) A fire hose reel system must be provided— (i) to serve the whole building where one or more internal fire hydrants are installed; or (ii) where internal fire hydrants are not installed, to serve any <i>fire compartment</i> with a <i>floor area</i> greater than 500m². (c) The fire hose reel system must— (i) have fire hose reels installed in accordance with AS 2441; and (ii) provide fire hose reels to serve only the <i>storey</i> at which they are located, except a <i>sole-occupancy unit</i> of not more than 2 <i>storeys</i> in a Class 6, 7, 8 or 9 building may be served	Fire hoe reels are required by the BCA as the building has a total floor area of more than 500m² and internal fire hydrants are installed. As per the Minerva Draft Fire Engineering Concept report it is proposed to dispense with the provision of hose reel via a Performance Solution.

by a single fire hose reel located at the level of egress from that <i>sole-occupancy unit</i> provided the fire hose reel can provide coverage to the whole of the <i>sole-occupancy unit</i>. (d) Fire hose reels must be located internally, externally or in combination, to achieve the system coverage specified in AS 2441. (e) In achieving system coverage, one or a combination of the following criteria for individual internally located fire hose reels must be met in determining the layout of any fire hose reel system: (i) Fire hose reels must be located adjacent to an internal fire hydrant (other than one within a fire-isolated <i>exit</i>), except that a fire hose reel need not be located adjacent to every fire hydrant, provided system coverage can be achieved. (ii) Fire hose reels must be located within 4 m of an <i>exit</i>, except that a fire hose reel need not be located adjacent to every <i>exit</i>, provided system coverage can be achieved. (iii) Where system coverage is not achieved by compliance with (i) and (ii), additional fire hose reels may be located in paths of travel to an <i>exit</i> to achieve the <i>required</i> coverage. (f) Fire hose reels must be located so that the fire hose will not need to pass through doorways fitted with fire or smoke doors, except— (i) doorways in walls referred to in C2.5(a)(v) in a Class 9a building and C2.5(b)(iv) in a Class 9c building separating ancillary use areas of high potential <i>fire hazard</i>; and (ii) doorways in walls referred to in C2.12 or C2.13 separating equipment or electrical supply systems; and (iii) doorway openings to <i>shafts</i> referred to in C3.13. (g) Where the normal water supply cannot achieve the flow and pressures required by AS 2441, or is unreliable— (i) a pump; or (ii) water storage facility; or (iii) both a pump and water storage facility,	
---	--

	must be installed to provide the minimum flow and pressures required by clause 6.1 of AS 2441.	
E1.5	<u>Sprinklers</u> A sprinkler system must— (a) be installed in a building or part of a building when <i>required</i> by Table E1.5; and (b) comply with Specification E1.5 and Specification E1.5a as applicable	A sprinkler system is required by the BCA as the building has an effective height of more than 25m and the building is considered as a large-isolated building. The existing sprinkler system is to be assessed and designed to ensure the system maintains compliance with AS 2118.1-2017. Certification from an accredited fire services engineer to be provided at the Construction Certificate stage.
E1.6	<u>Portable Fire Extinguishers</u> Portable fire extinguishers are required to protect the development in accordance with BCA Clause E1.6 and AS 2444 - 2001.	Portable fire extinguishers are to be provided to the proposed development works to suit the associated risk. All locations are to be certified as being in accordance with AS 2444 – 2001.
E1.8	<u>Fire control centres</u>	The existing fire control centre will be maintained to service the new development works.

3.4.2 – Smoke Hazard Management (Part E2, BCA)

Clause	Item	Comment
E2.2	<u>Smoke Hazard Management</u> A smoke hazard management system is required in accordance with the provisions of Table E2.2a, NSW Table E2.2b and Specification E2.2a and Specification E2.2b.	In respect to the provision of smoke hazard management systems to the development works the following systems are required: 1. An automatic fire detection and alarm system is to be installed in accordance with AS1670.1-2018 2. Automatic shutdown of the AC system is required in accordance with Clause 6 of BCA Specification E2.2 3. An automatic smoke exhaust system in accordance with Specification E2.2 and AS1668.1-2015 As per the Minerva Draft Fire Engineering Concept report it is proposed to undertake a performance based smoke exhaust system via a Performance Solution. Certification from an accredited fire services engineer to be provided at the Construction Certificate stage.

3.4.3 – Lift Installations (Part E3, BCA)

Clause	Item	Comment
E3.2	<u>Stretcher facility in lifts</u> (a) A stretcher facility in accordance with (b) must be provided—(i) in at least one emergency lift required by E3.4; or (ii) where an emergency lift is not required, if passenger lifts are installed to serve any storey above an effective height of 12m, in at least one of those lifts to serve each floor served by the lifts. (b) A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400 mm high above the floor level	All detail drawings or specifications are to ensure compliance with BCA Clause E3.2
E3.3	<u>Warning against the use of the lift</u> Adjacent to the call buttons of all passenger and goods lifts signage 10mm high stating ‘DO NOT USE LIFTS IF THERE IS A FIRE’ is to be provided.	All detail drawings or specifications are to ensure compliance with BCA Clause E3.3
E3.4	<u>Emergency lift</u> (a) At least one emergency lift complying with (d) must be installed in a building which has an <i>effective height</i> of more than 25m; (b) An emergency lift may be combined with a passenger lift and must serve those <i>storeys</i> served by the passenger lift so that all <i>storeys</i> of the building served by passenger lifts are served by at least one emergency lift. (c) Where two or more passenger lifts are installed and serve the same <i>storeys</i>, excluding a lift that is within an <i>atrium</i> and not contained wholly within a <i>shaft</i>— (i) at least two emergency lifts must be provided to serve those <i>storeys</i>; and (ii) if located within different <i>shafts</i>, at	The Dressing Rooms to Level 4 & 5 and store and plant room to Level 6 will be served by an emergency lift which will not serve every level of the building

	least one emergency lift must be provided in each <i>shaft</i>. (d)An emergency lift must— (i)be contained within a <i>fire-resisting shaft</i> in accordance with C2.10; and (ii)in a Class 9a building serving a <i>patient care area</i>— (A) have minimum dimensions, measured clear of all obstructions, including handrails, etc complying with Table E3.4; and (B)be connected to a standby power supply system where installed	
E3.5	Landings Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Section D.	All detail drawings or specifications are to ensure compliance with BCA Clause E3.5
E3.6	<u>Facilities for people with disabilities</u> Every passenger lift is to be provided with handrails, minimum internal floor dimensions, clear door opening dimensions and car control buttons in accordance with AS1735.12 and be fitted with a series of sensory devices per BCA Clause E3.6.	Compliant designs are to be provided from the lift services consultant. All designs are to be certified as being in accordance with BCA Clauses E3.6 & E3.7 and AS 1735.1/2/3 or 16
E3.7	<u>Fire Service Controls</u> All passenger lifts designed in accordance with AS1735 Part 1 or 2 are to be fitted with fire service controls (as building>12.0m in effective height).	Compliant designs are to be provided from the lift services consultant
E3.8	<u>Aged care buildings</u>	Not applicable to the development works
E3.9	<u>Fire service recall operation switch</u> Each group of lifts must be provided with one fire service recall control switch required by E3.7 that activates the fire service recall operation	Compliant designs are to be provided from the lift services consultant
E3.10	<u>Lift car fire service drive control switch</u>	Compliant designs are to be provided from the lift services consultant

3.4.4 – Emergency Lighting, Exit Signs and Warning Systems (Part E4, BCA)

Clause	Item	Comment
E4.2, E4.3 & E4.4	<u>Emergency Lighting</u> A system of emergency lighting is to be provided through the building.	Emergency lighting system is to be provided throughout the development works in accordance with BCA Clauses E4.2, E4.3 & E4.4 and AS 2293.1-2018. Certification from an accredited services engineer to be provided at the Construction Certificate stage.
E4.5, E4.6 & E4.8	<u>Exit Signage</u> A system of illuminated exit and directional exit signage is to be provided through the building.	Illuminated exit signage and directional exit signage are to be provided throughout the development works in accordance with BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1 – 2018. As per the Minerva Draft Fire Engineering Concept report it is proposed to permit the exits signs to the auditorium to be non-illuminated during a performance via a Performance Solution. Certification from an accredited services engineer to be provided at the Construction Certificate stage.
E4.9	<u>Sound systems and intercom systems for emergency purposes</u> An emergency warning and intercom system complying where applicable with AS1670.4 must be installed— (a) in a building with an <i>Effective height</i> of more than 25m	A sprinkler system is required by the BCA as the building has an effective height of more than 25m. The existing EWIS is to be assessed and designed to ensure the system achieves compliance with AS1670.4-2018. Certification from an accredited fire services engineer to be provided at the Construction Certificate stage.

3.5 – Health and Amenity (Section F, BCA)

3.5.1 – Damp and Weatherproofing (Part F1, BCA)

Clause	Item	Comment
FP1.4	<u>Weatherproofing</u>	Any new external wall is to be designed to ensure the building fabric does not permit the penetration of water. An alternate solution is to be prepared to address compliance of the external fabric with Performance Requirement FP1.4 of the BCA.
F1.1	<u>Stormwater</u> All storm water will be disposed of in accordance with AS3500.3	Compliant designs in accordance with AS3500.3 – 2015 are to be provided from the hydraulic services consultant
F1.4	<u>External above ground membranes</u> Waterproofing membranes for external above ground use must comply with AS 4654 Parts 1 and 2.	All detail drawings or specifications are to ensure compliance in this regard.
F1.5	<u>Roof Coverings</u> All metal roofing is to comply with AS1562.1	All detail drawings or specifications are to ensure compliance in this regard.
F1.6	<u>Sarking</u> Any sarking is to comply with AS/NZS 4200 Parts 1 & 2 – 1994	All detail drawings and specifications are to ensure compliance in this regard.
F1.7	<u>Waterproofing of wet areas in buildings.</u> All bathroom and sanitary compartments are to be water resistant and waterproof in accordance with AS3740 as though they were in a residential building.	Design specifications are to include the need for water proofing to be carried out in accordance with AS3740 – 2010
F1.9	<u>Damproofing</u> The building is to be provided with damp proofing in accordance with AS2904, etc.	All designs are to be certified as being provided with a system of damp proofing in accordance with AS2904 – 1995
F1.10	<u>Damp-proofing of floors on the ground</u>	All detail drawings and specifications are to ensure compliance in this regard
F1.11	<u>Provision of floor wastes</u>	All detail drawings or specifications are to ensure compliance in this regard.
F1.12	<u>Subfloor ventilation</u>	All detail drawings or specifications are to ensure compliance in this regard.

F1.13	<u>Glazed Assemblies</u> All glass to the building is to comply with AS2047 and AS1288.	Design specifications are to include the need for all glazing systems to be constructed, glazed and fitted in accordance with AS1288 – 2006 and AS2047 – 2014.
-------	--	--

3.5.2 – Sanitary Facilities (Part F2, BCA)

Clause	Item	Comment
F2.1	<u>Facilities in residential buildings</u> This clause details requirements for residential buildings	Not applicable to this building
F2.2	<u>Calculation of occupants</u> The number of occupants used for the determination of the number of sanitary facilities required to the building has been determined in accordance with BCA Table D1.13.	Refer to Building Description in Section 2 of this report for occupant numbers
F2.3	<u>Facilities in class 3 to 9 buildings</u> This clause offers the required ratios of sanitary facilities required to a building depending upon the respective populations Employees and the public may not share the same facilities.	Sanitary facilities have been provided to satisfy the intended population levels
F2.4	<u>Facilities for People Disabilities</u> The BCA requires accessible sanitary facilities as per the following; (a) 1on every storey containing sanitary compartments; and (b) where a storey has more than 1bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks	Accessible facilities are provided as required. Any new facility is to be designed and constructed in accordance with AS1428.1-2009.

Clause	Item	Comment
F2.5	<u>Construction of sanitary compartments</u> Any fully enclosed sanitary facility, where an inward swinging door is less than 1.2m from the WC pan, the door leaf is to be provided with lift off hinges that facilitate the removal of the door from outside the enclosure.	All detail drawings or specifications are to ensure compliance in this regard.
F2.6	<u>Interpretation: Urinals and washbasins</u> (a) A urinal may be— (i) an individual stall or wall-hung urinal; or (ii) each 600 mm length of a continuous urinal trough; or (iii) a closet pan used in place of a urinal. (b) A washbasin may be— (i) an individual basin; or (ii) a part of a hand washing trough served by a single water tap.	Noted
F2.7	<u>Microbial (legionella) control</u> Hot water, warm water and cooling water systems in a building other than a system serving only a single sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building must be installed in accordance with AS/NZS 3666.1.	Mechanical services engineer to certify compliance if applicable
F2.8	<u>Waste Management</u>	Not applicable to the development works
F2.0	<u>Accessible adult change facilities</u>	Not applicable to the development works

3.5.3 – Room Sizes (Part F3, BCA)

Clause	Item	Comment
F3.1	<u>Heights of rooms and other spaces</u> All areas of the building are required to have a minimum ceiling height of 2.4m including corridors except for the sanitary facilities which are permitted to be 2.1m in height. (ii) a school classroom or other assembly building or part that accommodates not more than 100 persons — 2.4 m; and (iii) a theatre, public hall or other assembly building or part that accommodates more than 100 persons — 2.7 m; and (iii) a corridor— (A) that serves an assembly building or part that accommodates not more than 100 persons — 2.4 m; or (B) that serves an assembly building or part that accommodates more than 100 persons — 2.7 m;	The design appears to not achieve a minimum ceiling height of 2.7m to the upper seating level to the Live Room Theatre. A performance solution will be required to address any design non-compliance where minimum ceiling heights are not achieved.

3.5.4 – Light and Ventilation (Part F4, BCA)

Clause	Item	Comment
F4.1	<u>Provision of natural light</u> Natural lighting must be provided in all habitable rooms.	Not applicable to the development works.
F4.2	<u>Methods and extent of natural lighting</u> Natural lighting must be provided by windows with an aggregate light transmitting area of not less than 10% of the floor area of the room and are open to the sky or open verandah etc. For Class 9b If facing the boundary of an adjoining allotment or another building on the allotment windows are to be a horizontal distance of not less than 1m away or 50% of the square root of the exterior height of the wall (which contains the window) measured in metres from the sill whichever is the greater.	Not applicable to the development works.
F4.3	<u>Natural light borrowed from adjoining room</u> Natural lighting to a room in a Class 2 or 4 part of a building or in a sole-occupancy unit of a Class 3 building may come through a glazed panel or opening from an adjoining room	Not applicable to the development works.

F4.4	<u>Artificial Lighting</u> (a) Artificial lighting must be provided— (i) in <i>required</i> stairways, passageways, and ramps; and (ii) if natural light of a standard equivalent to that <i>required</i> by F4.2 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency, in— (A) Class 4 parts of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries; and (B) Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building; and (C) Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. (b) The artificial lighting system must comply with AS/NZS 1680.0. (c) The system may provide a lesser level of illumination to the following spaces during times when the level of lighting would be inappropriate for the use: (i) A theatre, cinema or the like, when performances are in progress, with the exception of aisle lighting required by Part H1. (ii) A museum, gallery or the like, where sensitive displays require low lighting levels. (iii) A discotheque, nightclub	Artificial lighting is to be provided throughout the development works in accordance with AS1680.0-2009 Certification from an electrical engineer to be provided at the Construction Certificate stage.
F4.5	<u>Ventilation of rooms</u> A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have—	Compliant designs are to be provided from the mechanical services consultant to verify compliance. Certification from a mechanical engineer to be provided at the Construction Certificate stage.

	(a) natural ventilation complying with F4.6; or (b) a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1.	
F4.6	<u>Natural ventilation</u> (a) Natural ventilation provided in accordance with F4.5(a) must consist of openings, <i>windows</i> , doors or other devices which can be opened— (i) with a ventilating area not less than 5% of the <i>floor area</i> of the room <i>required</i> to be ventilated; and (ii) open to— (A) a suitably sized court, or space open to the sky; or (B) an open verandah, carport, or the like; or (C) an adjoining room in accordance with F4.7. (b) The requirements of (a)(i) do not apply to a Class 8 <i>electricity network substation</i> .	Not applicable to the development works.
F4.8 & F4.9	<u>Restriction on position of water closets and urinals</u> <u>Airlocks</u> A room containing a WC or urinal must not open directly into a workplace occupied by more than one-person. Where a sanitary compartment is prohibited as per the above access must be by a) an airlock, hallway or other room with a floor area of not less than 1.1 m ² and fitted with self-closing doors at all access doorways; or the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.	The design achieves compliance with the provisions of Clause F4.8
F4.11	<u>Car parks</u> Car parks are to be provided with a system of ventilation complying with AS1668.2.	Not applicable to the development works.
F4.12	<u>Kitchen and local exhaust ventilation</u>	Not applicable to the development works.

3.5.5 – Sound Transmission and Insulation (Part F5, BCA)

Clause	Item	Comment
F5.2	Determination of airborne sound insulation ratings	Not applicable to the development works.
F5.3	Determination of impact sound insulation ratings	Not applicable to the development works.
F5.4	Sound insulation of floors	Not applicable to the development works.
F5.5	Sound insulation rating of walls	Not applicable to the development works.
F5.6	Sound insulation rating of internal services	Not applicable to the development works.
F5.7	Sound insulation of pumps	Not applicable to the development works.

3.5.6 – Condensation Management (Part F6, BCA)

Clause	Item	Comment
F6.2	Pliable building membrane	Not applicable to the development works.
F6.3	Flow rate and discharge of exhaust systems	Not applicable to the development works.
F6.4	Ventilation of roof spaces	Not applicable to the development works.

3.6 – Ancillary Provisions (Section G, BCA)

Clause	Item	Comment
Part G1 G1.1	<u>Swimming pools</u> All swimming pools with a depth of water 300mm or more, must comply with the <i>Swimming Pools Act 1992</i> and the <i>Swimming Pools Regulations 2008</i> , AS 1926.1 and 2 2007 and BCA Part G1.1.	Not applicable to the development works.
G1.2	<u>Refrigerated Chambers, Strong-Rooms and Vaults</u>	Not applicable to the development works.
G1.3	<u>Outdoor Play Spaces</u>	Not applicable to the development works.
Part G2 G2.2	<u>Installation of Appliances</u>	Not applicable to the development works.
G2.3	<u>Open Fireplaces</u>	Not applicable to the development works.
G2.4	<u>Incinerator rooms</u>	Not applicable to the development works.
Part G3	<u>Atrium Construction</u>	Not applicable to the development works.
Part G4	<u>Construction in alpine areas</u>	Not applicable to the development works.
Part G5	<u>Construction in bushfire prone area</u>	Not applicable to the development works.
Part G6	<u>Occupiable outdoor areas</u>	Not applicable to the development works.
NSW G1.101	<u>Provision for the cleaning of windows</u> A building must be provided with a system of cleaning windows located 3 or more storeys above ground level by a system provided in accordance with the Work Health and Safety Act 2000 or by having the design facilitate the cleaning of the windows from wholly within the building.	Compliant designs are to be provided to verify compliance

3.7 – Special Use Buildings (Section H, BCA)

Clause	Item	Comment
H1.2	<u>Separation</u> A theatre or public hall must have a sprinkler system or have the stage and backstage area separated	Refer to Section 3.9
H1.3	<u>Proscenium wall construction</u> Must comply with Specification H1.3	Refer to Section 3.9
H1.4	<u>Seating area</u>	Refer to Section 3.9
H1.5	<u>Exits from theatre stages</u> <u>Exits must pass through the proscenium wall and exit from backstage areas must be independent to exist from the audience</u>	Refer to Section 3.9
H1.6	<u>Access to platforms and lofts</u> <u>Stairway provides access to a service platform or rigging loft must comply with AS1657</u>	Refer to Section 3.9
H1.7	<u>Aisle lighting in theatres</u> <u>If general lighting is dimmed or extinguished during public occupation and the floor is stepped or inclined at a slope of more than 1 in 12 aisles lights must be provided.</u>	Refer to Section 3.9
Part H2	<u>Public transport buildings</u>	Not applicable
Part H3	<u>Farm buildings and farm sheds</u>	Not applicable

3.8 – Energy Efficiency (Section J, BCA)

Part	Item	Comment
Part J1	<u>Building fabric</u> This part set out the requirements for the thermal efficiency of the envelope of the building.	The external envelope of the building is required to achieve compliance with BCA Part J1. It is recommended a Section J report is undertaken to verify compliance.
Part J3	<u>Building sealing</u> This part sets out the provisions for sealing of a building to prevent the leakage of conditioned space	The method of construction of the envelope is to incorporate sealing of gaps etc. to prevent loss of conditioned air. It is recommended a Section J report is undertaken to verify compliance.
Part J5	<u>Air-conditioning and ventilation systems</u> This part sets out the limitations of A/C and mechanical ventilations systems to impose minimum efficiencies within HVAC systems	Mechanical air-handling systems are to be designed and certified by the mechanical services engineer to ensure compliance with BCA Part J5. Certification from an mechanical engineer to be provided at the Construction Certificate stage.
Part J6	<u>Artificial Lighting and power</u> This part sets out maximum illumination power densities and control arrangements for efficiency within lighting configurations and power control for water boiling/chilling units	Internal artificial lighting and power systems are to be designed and certified by the electrical services engineer to ensure with BCA Part J6 Certification from an electrical engineer to be provided at the Construction Certificate stage.
Part J7	<u>Hot water supply and swimming pool and spa plant</u> This part sets out the requirements for insulation of water supply lines to hot water units to reduce heat loss and heating/pumping of pools and spas.	Hot water systems are to be designed and certified by the hydraulic services engineer to ensure compliance with BCA Part J7. Certification from a hydraulic engineer to be provided at the Construction Certificate stage.
J8	<u>Facilities for Energy Monitoring</u> This part sets out the requirements for access to maintain systems and energy monitoring requirements.	Building services are to be provided with energy meter to record consumption of gas and electricity. The metering system is to be designed and certified by the hydraulic and electrical services engineers to ensure compliance with BCA Part J8. Certification from an electrical engineer to be provided at the Construction Certificate stage.

3.9 – Special Use Buildings (NSW Part H101 Entertainment Venues, BCA)

Part	Item	Comment
H101.1	<u>Application of Part</u>	This Part applies to every entertainment venue as described in the Environmental Planning and Assessment Regulation 2000.
H101.2	<u>Fire Separation</u> 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.	The entertainment venue is required to be fire separated as the entertainment venue does not form the whole of the building.
H101.3	<u>Foyer Space</u> 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 m ² for each person that the auditorium accommodates.	Foyer Space is sprinkler protected and achieves compliance
H101.4	<u>Sprinkler systems for common foyers</u>	Foyer Space is sprinkler protected and achieves compliance
H101.5	<u>Conventional Stages</u> This clause applies to a conventional stage, that is, a stage which is separated from the auditorium by a proscenium wall incorporating a proscenium opening.	The stage to the main auditorium is considered to be a conventional stage
H101.5.1	<u>Extent of stage area</u> 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.	Noted

H101.5.2	<u>Small stages</u> A stage which is more than 50m² but not more than 150m² in area must have 2 or more means of egress from the stage and backstage area provided otherwise than through the proscenium wall.	The stage to the Live Room is approximately 80m ² and considered to be a small stage
H101.5.3	<u>Large Stages</u> A stage which is more than 150m² in area must have the following additional requirements— (a) must have installed directly above the stage a suitable sprinkler system complying with Specification E1.5; and (b) must have the proscenium opening protected by a safety curtain that complies with NSW H101.10; and (c) must have a line of open drenchers or open sprinklers provided above the proscenium opening on the stage side and in such a position as to be able to discharge over the inside face of the safety curtain; and (d) must have 2 or more means of egress from the stage and backstage area provided otherwise than through the proscenium wall.	The stage will have a total area greater than 150m², measured approximately 400m², therefore all detail drawings and specifications are to ensure compliance is achieved in relation to this clause. As per the Minerva Draft Fire Engineering Concept report it is proposed to dispense with the need for a safety curtain to separate the stage area via a Performance Solution.
H101.5.4	<u>Fire separation of stages</u> A stage which is more than 50m² in area, and all areas below such a stage, must be separated from the backstage and the remainder of the building by construction having an FRL of not less than 60/60/60.	The stage to the main auditorium and Live Space do not contain any backstage area. Any area below the stage is to be fire separated as required by construction having an FRL of not less than 60/60/60 Detail design to be provided at the Construction Certificate stage to verify compliance is achieved.
H101.6	<u>Non-conventional stages</u>	This clause applies to a stage that is not a conventional stage.
H101.6.1	<u>Small stages</u> A stage which is more than 50m² but not more than 150m³ in area must have at least 2 means of egress from the backstage area	The Stage to the Live Room achieves compliance

H101.6.2	<u>Large stages</u> A stage which is more than 150m² in area must have at least 2 means of egress from the backstage area.	The Stage to the main auditorium achieves compliance
H101.7	<u>Flying scenery</u> Where there is a grid or other means of flying scenery over— (a) a conventional stage or non-conventional stage— (i) the stage must be provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5; and (ii) a fly gallery, bridge grid, rigging loft, tie gallery or electric light perch must— (A) comply with AS 1657; and (B) be of non-combustible construction; (iii) a fly gallery must be provided with at least 2 means of egress, one on each side of the stage; (iv) a grid or rigging loft must be provided with at least 2 means of egress; (v) if exposed steel is used in the construction of a roof, fly or tie gallery, the roof, fly or tie gallery must be so designed that, in the event of its structural failure due to fire, the wall structure of the building will not be affected. (vi) structural steel supporting the stage tower must be enclosed by masonry or concrete and have an FRL of not less than 120/120/120; and (b) in the case of a conventional stage, the follow (i) The proscenium wall must— (A) have an FRL of not less than 120/120/120; and (B) have the proscenium opening protected by a rigid safety curtain in accordance with NSW H101.10.1; (ii) the walls forming the stage area, and the area beneath the stage, must be constructed of masonry or concrete and have an FRL of not less than 120/120/120.	In regards to the grid level above the conventional stage, the following additional requirements are required: (i) All equipment used such as a bridge grid, rigging loft etc. must comply with AS 1657 and be of non-combustible construction (ii) If exposed steel is used in the construction of a roof, fly or tie gallery, the roof, fly or tie gallery must be so designed that, in the event of its structural failure due to fire, the wall structure of the building will not be affected (iii) structural steel supporting the stage tower must be enclosed by masonry or concrete and have an FRL of not less than 120/120/120 All detail drawings and specifications are to ensure compliance is achieved in relation to part (a) of this clause. The stage, being a conventional stage, and pit level (area beneath the stage) is not fire separated by masonry or concrete construction having an FRL of not less than 120/120/120. A review of the stage construction is required to determine the extent of compliance with the requirement of this condition. Where compliance is not achieved a performance based approach will be required to address the non-compliances.

H101.8	<u>Load notice</u>	A notice indicating the actual distributed and concentrated load for which the stage floor has been designed for by the Structural Engineer must be displayed in a position adjacent to the floor. This notice must be in legible letters and figures— (a) at least 50 mm high; and (b) on a contrasting background. All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.10.-1	<u>Safety Curtains</u> A required safety curtain required must— (a) be made of non-combustible material; and (b) it forms an efficient smoke seal between the stage and the auditorium when it closes; and (c) be capable of withstanding a pressure differential of 0.5 kPa over its entire surface area; and (d) be run on steel guides located on each side of the proscenium opening; and (e) remain engaged in its guides if subjected to a pressure differential of 1 kPa; and (f) be of robust construction to withstand damage by scenery, stage properties and falling debris; and (g) be capable of closing the proscenium opening within 30 seconds; and (h) have manual controls for closing the curtain, located on each side of the stage; and <u>Safety Curtains</u> Continued— (i) have a notice adjacent to the operating controls; and (j) actuate a distinctive warning alarm audible to persons on the stage not be reliant on the primary electricity supply; and (k) have the words “Safety Curtain” exhibited on the curtain to be read from all parts of the auditorium.	As per the Minerva Draft Fire Engineering Concept report it is proposed to dispense with the need for a safety curtain to separate the stage area via a Performance Solution.

	(l) be vertically hung from steel cables; (m) be framed with structural steel that complies with AS 4100; (n) be sheeted on both faces with sheet steel or non-combustible material to ensure that its frame is capable of withstanding distortion arising from heat; and (o) when closed, overlap the proscenium opening by not less than 300 mm at each side and by not less than 600 mm at the top.	
H101.11	<u>Seating in rows</u>	This clause does not apply to continental seating or seating at tables.
H101.11.1	<u>Number of seats</u> Where seating is arranged in rows, the maximum of seats in each row must not exceed— (a) 8 where there is an aisle at one end only of the row; or (b) 16 where there are aisles on both ends of the row.	The current design details seating exceeding 8 seats in a row where a single aisle is provided As per the Minerva Draft Fire Engineering Concept report it is proposed to permit more than 8 seats via a Performance Solution.
H101.11.2	<u>Chairs used for seating</u> Chairs used for seating must— (a) where they have arms, be at least 500 mm from centre to centre; and (b) where they do not have arms, be at least 450 mm from centre to centre; and (c) have a minimum lateral clearance of at least 300 mm between— (i) the front of each chair and the back of the chair in front; or (ii) if a guardrail is provided in front of the chairs, between the front of each chair and the guardrail; and (d) have a distance of at least 950 mm between the back of each chair and the back of the chair in front	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.11.3	<u>Chairs in auditoriums – Level Floors</u>	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

	Chairs in an auditorium that has a level floor must be— (a) securely fastened to the floor; or (b) secured together in groups of not less than 4 and not more than 16.	
H101.11.4	<u>Chairs in auditoriums – Sloping Floors</u> Chairs in an auditorium having a sloping floor, or having stepped or inclined platforms, must be securely fastened to the floor or platform.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.11.5	<u>Radiating aisles in seating areas</u> Where seating is securely fastened to the floor and arranged in rows of segments of circles, with radiating aisles— (a) the number of seats in each row between 2 aisles must not exceed 24; and (b) each seat must— (i) have a minimum lateral clearance of at least 325 mm between the front of the seat and the back of the seat in front; and (ii) have a distance of at least 975 mm between the back of the seat and the back of the seat in front; and (c) the rows may be curved or straight	The current design details seating exceeding 24 seats in a row where a single aisle is provided As per the Minerva Draft Fire Engineering Concept report it is proposed to permit more than 24 seats via a Performance Solution.
H101.11.6	<u>Aisles and cross-overs</u> Where aisles and cross-overs are provided— (a) each aisle must have a width of at least 1000 mm and each cross-over must have a width of at least 1500 mm; and (b) the floor of each aisle must not have a grade of more than 1 in 8 at any part; and (c) if there is a step from a row to an aisle or from a landing to an aisle, the step must not project into the aisle.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

H101.11. 7	<u>Platforms and steps</u> Where an aisle contains platforms or steps— (a) the platforms and steps must extend for the full width of the aisle; and (b) if there are no intervening steps between levels of platforms, the height of the platform riser must not be more than 200 mm; and (c) if there are one or more intervening steps between levels of platforms— (i) each riser must be at least 100 mm but not more than 200 mm high; and (ii) each going must be at least 250 mm deep; and (iii) risers and goings must be uniform; and (d) goings which are more than 450 mm deep at platform level must not have a grade of more than 1 in 50; and (e) at the entrance from the aisle to each row there must be a clear level floor space, extending the full width of the aisle, of at least 300 mm, measured from the back of the row in front; and (f) any going projecting in front of a seat adjacent to an aisle must be protected by a guardrail.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.11. 8	<u>Stepped platforms</u> Where stepped platforms without chairs or stepped platforms with bench seats, are used for seating— (a) each platform must be at least 700 mm deep; and (b) each seating space must be at least 450 mm wide, measured along the front of the platform or bench seat; and (c) each seating space must be numbered consecutively; and (d) at the entrance from the aisle to each row there must be a clear level floor space, extending the full width of the	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

	aisle, of at least 300 mm, measured from the back of the row in front; and (e) any going projecting in front of a seat adjacent to an aisle must be protected by a guardrail; and (f) in the case of stepped platforms with bench seats, there must be at least 300 mm between the back of each seat and the front of the platform behind, or the front of the bench seat behind, whichever is the closer.	
H101.12	<u>Continental Seating</u>	Not applicable to this building.
H101.12.1	<u>Seating to be fastened</u>	Not applicable to this building.
H101.12.2	<u>Maximum seats per row</u>	Not applicable to this building.
H101.12.3	<u>Depths of seating rows</u>	Not applicable to this building.
H101.12.4	<u>Clearance between rows</u>	Not applicable to this building.
H101.12.5	<u>Chairs used for seating</u>	Not applicable to this building.
H101.12.6	<u>Egress doorways</u>	Not applicable to this building.
H101.12.7	<u>Clear areas</u>	Not applicable to this building.
H101.12.8	<u>Minimum clear space</u>	Not applicable to this building.
H101.12.9	<u>Doors</u>	Not applicable to this building.
H101.13.1	<u>Provision of Guardrails – Location</u> Guardrails must be provided— (a) along the fascia of each balcony or box; (b) if there is a stepped floor, along the front edge of each cross-over; and (c) where NSW H101.13.2 and NSW H101.13.3 apply	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

H101.13. 2	<u>Provision of Guardrails – Fixed back seats</u> If seats with fixed backs are provided, guardrails that extend for the full width of the seating, must be provided at least 500mm above the platform unless— (a) fixed seat backs 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 the next lower cross-over	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.13. 3	<u>Provision of Guardrails – Seats between platforms</u> 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 660mm 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 865mm above the nosing of each tread; and (c) the end of a platform or the back of the highest platform does not abut a wall that extends at least 660mm above the floor level of the platform, a guard rail not less than 660mm 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 660mm high, a guard rail must be provided that extends around the perimeter of the raised section at a height of at least 660mm above the inclined floor level; and	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

	(e) seating at tables is provided on a stepped platform, a guardrail at least 500mm high must be provided along the front edge of the platform.	
H101.14	<u>Guardrails</u> This applies to seating areas	Noted
H101.14.1	<u>Guardrails – Continental Seating</u>	Not applicable to this building.
H101.14.2	<u>Balconies and Boxes</u> A guardrail provided along the fascia of a balcony or ox— (a) if it is located at the foot of a stepped aisle, must have its top surface at least 900mm above the floor of the balcony or box; and (b) if it is not located at the foot of a stepped aisle, must have its top surface at least 750 mm above the floor; and (c) if it has a ledge more than 70mm wide, must have the top surface of the ledge sloping downwards towards the floor of the balcony or box at an angle of at least 30 degrees from the horizontal; and (d) must have an unperforated kerb or toe guard extending for at least 300mm above the floor.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.14.3	<u>Cross-overs</u> A guardrail provided along the front edge of a cross-over on a stepped floor – (a) must be at least 750 mm high; and (b) must extend for the full distance between aisles, or between a wall and an aisle, or for such other distance as considered necessary	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.15.1	<u>Dressing rooms</u> A dressing room or 2 or more adjoining dressing rooms, having a total floor area of more than 50m ² must—	The dressing rooms do not achieve full compliance with this provision and will be subject to further review. Should compliance not be achieved a performance solution will be required to address any non-compliances of this Clause.

	(a) be separated from other parts of the building by construction having an FRL of not less than 60/60/60; (b) have at least 2 means of egress as remote from each other as possible, one of which must discharge— (i) directly to a road or open space; or (ii) through a fire-isolated exit to a road or open space	
H101.17	<u>Projection Suites</u>	Not applicable to this building.
H101.17.1	<u>Projection Suites – Rooms to be provided</u>	Not applicable to this building.
H101.17.2	<u>Projection Suites – Fire Separation</u>	Not applicable to this building.
H101.17.3	<u>Projection Suites – Concession for protection of some openings</u>	Not applicable to this building.
H101.18.1	<u>Basements storeys – More than two</u>	Not applicable to this building.
H101.19.1	<u>Electric mains installation – Main switchboard</u> The switchboard containing the main isolation switch must— (a) be located in a position that is readily accessible to authorised persons, and to the Fire Brigade in the case of an emergency; and (b) be enclosed by construction having an FRL not less than 60/60/60.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.19.2	<u>Electric mains installation – Circuit protection</u> Protection of a final sub-circuit originating at a switchboard or distribution board must be by means of circuit breakers.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.19.3	<u>Electric mains installation – Separate sub-mains</u> Where an entertainment venue has its main supply in common with that of another building or where it is a part of a building—	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.

	(a) the entertainment venue must be served by a separate and independent sub-main from the main switchboard; and (b) each such sub-main the consumer's main and the supply authority's conductors within the building must be protected against fire by means of— (i) mineral-insulated metal-sheathed cables or other cables that provide at least 2 hours' fire protection; or (ii) heavy-duty PVC conduit or metallic pipe, concrete encased in walls or slabs with a minimum of 50mm cover; or (iii) heavy-duty PVC conduit or metallic pipe, buried at least 500mm below ground level, for underground cabling.	
H101.20.1	<u>Lighting – Lighting switches</u> (a) Any switch controlling the lighting system must not be accessible. (b) Where, during normal use, general lighting may be dimmed or switched off, an override switch to switch on all the general lighting instantaneously must be installed in the auditorium in a position accessible to management.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.20.2	<u>Lighting – Lighting Levels</u> Where the lamps utilised in the general lighting are of a type that will not relight immediately after the restoration of the primary electricity supply to those lamps— (a) a time delay or other suitable means must be provided to maintain the emergency lighting for a period not less than that necessary to allow the general lighting lamps to restrike; or (b) lamps of a type that will provide immediate lighting must be installed and— (i) arranged in such a manner as to ensure visual conditions not inferior to those required to be provided by the emergency lighting; and	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.

	(ii) capable of being switched in common with the general lighting and of being controlled also by the override switch	
H101.20.3	<u>Lighting – Provision of aisle lighting</u> Where general lighting is to be either dimmed or extinguished when the public is in attendance and where the floor is stepped or at an inclination greater than 1 in 12, aisle lights must be provided to illuminate the length of each aisle and the tread of each step therein.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.20.4	<u>Lighting – Aisle lighting power supply</u> Where an aisle light is installed in a seat frame, it must be supplied at a voltage of not more than 32 volts AC or 115 volts DC.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.20.5	<u>Lighting – Aisle lighting alternative power supply</u> Aisle lighting must be provided with an alternative electricity supply that— (a) is capable of being automatically energised in the event of failure of the primary lighting electricity supply; and (b) complies with the provisions applying to emergency lighting.	All detail drawings and specifications are to ensure compliance is achieved in relation to this clause. Certification from an electrical engineer to be provided at the Construction Certificate stage.
H101.22	<u>Automatic smoke-and-heat vents for stages</u>	Not applicable to this building.
H101.23	<u>Solid fuel burning stoves and open fire places</u>	Not applicable to this building.
H101.24.1	<u>Fuel gas cylinders – General</u> Fuel gas cylinders must— (a) be housed in an enclosure that is located outside the building; and (b) comply with the ventilation requirements of AS/NZS 1596.	If applicable, all detail drawings and specifications are to ensure compliance is achieved in relation to this clause.
H101.24.2	<u>Fuel gas cylinders – Fuel gas cylinder enclosures</u>	If applicable, all detail drawings and specifications are to ensure compliance is achieved in relation to this clause.

4.0 – Conclusion

It is the opinion of this office that, the proposed building is capable of achieving compliance with the requirements of the Building Code of Australia (BCA) 2019 Amendment 1, Volume 1, and relevant adopted standards without undue modification to the design or appearance of the building.

Whilst the building is capable of achieving compliance with the various provisions of the Performance Requirements of the BCA their acceptability has not been verified at this time. It will be necessary for the design to be reviewed by an appropriately qualified person prior to the issue of a Construction Certificate for the works.

BCA CAPABILITY REPORT

The Star – Former Part 3A Approval MP08_0098

Section 4.55(2) – Modification Application 18

Alterations and Additions to the Multi Use Entertainment Facility

Date: 30 March 2022

Our Ref: V220002

CONTENTS	Page No.
1.0 – EXECUTIVE SUMMARY	3
2.0 – REPORT SUMMARY	4
2.1 – LOCATION	4
2.2 – DESCRIPTION OF WORKS	4
2.3 – REPORT PURPOSE	4
2.4 – BASIS OF REPORT	4
2.5 – BUILDING DESCRIPTION	5
3.0 – BUILDING CODE OF AUSTRALIA ASSESSMENT	6
3.1 – STRUCTURAL PROVISIONS (SECTION B, BCA)	6
3.2 – FIRE RESISTANCE AND STABILITY (SECTION C, BCA)	7
3.3 – ACCESS & EGRESS (SECTION D, BCA)	9
3.4 – SERVICES AND EQUIPMENT (SECTION E, BCA)	11
3.5 – HEALTH AND AMENITY (SECTION F, BCA)	13
3.6 – ENERGY EFFICIENCY (SECTION J, BCA)	13
3.7 – SPECIAL USE BUILDINGS (NSW PART H101 – ENTERTAINMENT VENUES, BCA)	15
4.0 – FIRE SAFETY AND OTHER MEASURES	17
5.0 – CONCLUSION	18
6.0 – REFERENCES	19

1.0 – Executive Summary

This report has been prepared to identify the extent of compliance achieved by the architectural documentation against the relevant provisions of the Building Code of Australia (BCA) 2019 Amendment 1 and adopted standards.

The proposed modifications involve the development involves the alterations and additions to the multi-use Entertainment Facility to the Star and consisting of:

1. A main auditorium having a seating capacity of 1550 seats
2. A Live room having a seating capacity 850 seats

This report will provide a BCA analysis to assist in the process of design development and to assist the consent authority in the determination of the modified Development Application relating to the works.

2.0 – Report Summary

2.1 – Location

The subject site is located at 80 Pyrmont Street, Pyrmont and known as The Star. The Multi Use Entertainment Venue is to be located within Levels 3 to 6 of The Star.

2.2 –Description of works

The proposed modifications involve the development involves the alterations and additions to the multi-use Entertainment Facility to the Star and consisting of:

1. A main auditorium having a seating capacity of 1550 seats
2. A Live room having a seating capacity 850 seats

2.3 – Report purpose

This report has been prepared to identify aspects of the proposed design that require further consideration and to identify aspects of the design that may be altered subsequent to the issue of the modified Development Consent.

This report has been prepared on the basis of an assessment of compliance only and should not be construed as being design advice.

2.4 – Basis of report

This BCA Capability report has been prepared on the basis of the following-

- (i) Architectural Plans as prepared by ALTIS Architecture as detailed in Section 6.
- (ii) Building Code of Australia (BCA) 2019 Amendment 1, including NSW Variations and relevant Australian Standards;
- (iii) Environmental Planning and Assessment Act, 1979, and Regulations.
- (iv) Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021

2.5 – Building Description

<i>Use/Classification</i>	Classification – 9b – Assembly Building and considered to be an Entertainment Venue For the purpose of this report the classification is limited to Levels 3 – 6 which contains the new Entertainment Venue
<i>Rise in Storeys</i>	The building has a rise in fourteen (14) storeys.
<i>Storeys Contained</i>	The development contains a total of nineteen (19) storeys,
<i>Effective Height</i>	The building has an effective height of more than 50m
<i>Type of Construction (BCA)</i>	The new development works are to achieve Type A construction
<i>Floor Area & Volume Limitations</i>	The existing building has been considered as a large-isolated building in accordance with Clause C2.3 as the maximum fire compartment exceeds the maximum floor area of either 5,000m ² /and/or 8,000m ² as permitted by Table C2.2 of the BCA.
<i>Population</i>	By way of application of Clause D1.13 of the BCA, the following population will be accommodated within the Entertainment Facility: 1. Main auditorium having a capacity of 1550 occupants 2. Live room having a capacity 850 occupants
<i>Climate Zone</i>	Climate Zone 5

3.0 – Building Code of Australia Assessment

3.1 – Structural Provisions (Section B, BCA)

Item	Comment
<i>Resistance to actions</i>	The resistance of a building and its structure must be greater than the most critical action effect resulting from different combinations of actions; - the most critical action effect on a building or structure is determined in accordance with Clause B1.2 of the BCA and the general design procedures contained in AS/NZS 1170.0; and - the resistance of a building or structure is determined in accordance with Clause B1.4 of the BCA. A qualified structural engineer is to certify the new development works achieve compliance with the relevant provisions of the BCA and Australian Standards as applicable at the Construction certificate stage.
<i>Determination of individual actions</i>	The magnitude of the building's actions must be determined in accordance with the following: - Permanent and Imposed Actions – AS 1170.1, - Wind and earthquake actions – AS 1170 Part 2 and 4. A qualified structural engineer is to certify the new development works achieve compliance with the relevant provisions of the BCA and Australian Standards as applicable at the Construction certificate stage.
<i>Determination of structural resistance of materials and forms of construction</i>	The structural resistance of the building and materials and forms of construction must be determined in accordance with the following, as appropriate: - Masonry – AS 3700, - Concrete – AS 3600, AS 5146.1 & AS 5216, - Steel Construction – AS 4100 & AS 4600, - Composite steel and concrete - AS 2327, - Glazing – AS 2047. A qualified structural engineer is to certify the new development works achieve compliance with the relevant provisions of the BCA and Australian Standards as applicable at the Construction certificate stage.

3.2 – Fire Resistance and Stability (Section C, BCA)

Item	Comment						
<i>Fire Resistance</i>	The proposed new building structure is to comply with the required fire resistance levels as specified in Clause C1.1 and Clause 2 & 3 of Specification C1.1 for Type A construction. Refer to Table 3 of Specification C1.1 for the specific FRL's. Required fire resistance levels (FRL) are generally as follows; <table border="1"> <thead> <tr> <th>Class</th><th>FRL</th></tr> </thead> <tbody> <tr> <td>Class 9b</td><td>120/120/120</td></tr> <tr> <td>Class 7b</td><td>240/240/240</td></tr> </tbody> </table> Where lightweight fire rated construction is proposed for walls, the system must comply with Specification C1.8 of BCA and the manufactures tested specification. It is proposed to undertake a fire safety engineering assessment to reduce the FRL's where compliance with the Deemed-to-satisfy provisions cannot be achieved having consideration to the relevant Performance Requirements of the BCA.	Class	FRL	Class 9b	120/120/120	Class 7b	240/240/240
Class	FRL						
Class 9b	120/120/120						
Class 7b	240/240/240						
<i>Non-combustible building elements</i>	In a Type A Construction building, the following elements are required to be non-combustible in accordance with Clause C1.9 of the BCA a. External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation, b. The flooring and floor framing of lift pits, c. Non-loadbearing internal walls where they are required to be fire-resisting, and a shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible. 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 achieves complies with Clause C1.14 of the BCA. The proposed development can achieve the required prescriptive requirements which will be confirmed at the construction certificate phase.						
<i>Protection of Openings</i>	Doorways to the fire- isolated stairways, horizontal exits and lift shafts will be protected in accordance with the provisions of Clauses C3.8 & C3.10 of the BCA.						
<i>Vertical separation of openings</i>	Not applicable.						

Item	Comment
<i>Fire hazard properties</i>	The fire hazard properties of all materials, assemblies, fixtures and linings are to comply with Specification C1.10 of the BCA, as applicable. Further details are required to be provided during the Construction Certificate stage.
<i>Protection of equipment.</i>	The following equipment is to be fire separated with construction complying with Clause C2.12 (d) of the BCA. ▪ lift motors and lift control panels; or ▪ emergency generators used to sustain emergency equipment operating in the emergency mode; or ▪ central smoke control plant; or ▪ boilers; or ▪ a battery system installed in the building that has a total voltage of 12 volts or more and a storage capacity of 200 kWh or more. Further details are required to be provided during the Construction Certificate stage.
<i>Fire sealing of penetrations</i>	All service penetrations must be sealed to the requirements of Clause C3.12 and C3.15 of the BCA. Garbage rooms and garbage service shafts, (including walls, floors, ceilings. doors and shutters) must be protected in accordance with Clauses C3.12 and C3.13 of the BCA. Further details are required to be provided during the Construction Certificate stage.

3.3 – Access & Egress (Section D, BCA)

Item	Comment
Number of exits required	The number exits in the building will generally achieve compliance with the provisions of Clause D1.2 of the BCA being at least two (2) exits. Assessment of the architectural design has revealed that the new development works achieves compliance.
<i>Fire-isolation of stairways.</i>	All stairways serving as a required exit must fire-isolated if they stairway connects more than three consecutive storeys in accordance with Clause D1.3 of the BCA. The proposed development works will rely on the existing fire-isolated exits contained within the Star Casino.
<i>Exit travel distances.</i>	No point on the floor must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available with a total travel distance of 40m. Assessment of the architectural design has revealed that the travel distance within the new development works will not achieve compliance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.
<i>Distance between alternative exits</i>	Distance between alternate exits is not to exceed a maximum of 60m. Assessment of the architectural design has revealed that the travel distance within the new development works will not achieve compliance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.
<i>Dimensions of exits.</i>	Aggregate egress widths are to be in accordance with the provisions of Clause D1.6 of the BCA. Assessment of the architectural design has revealed that the aggregate egress width within the new development works will not achieve compliance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.

Item	Comment
<i>Travel via non-fire isolated exits</i>	The new development works will rely on non-fire-isolated exits for occupant egress in accordance with Clause D1.9 of the BCA. Assessment of the architectural design has revealed that the aggregate egress width within the new development works will not achieve compliance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.
<i>Egress Doors.</i>	All required doorways will swing in the direction of egress and will be provided with the appropriate hardware in accordance with Clauses D2.20 & D2.21 of the BCA.
<i>Balustrades.</i>	Balustrades are to be provided to all stairways, terraces and balconies in accordance with Clause D2.16 of the BCA.
<i>Handrails</i>	Handrails are to be provided to stairways as required by Clause D2.17 of the BCA and AS1428.1-2009.
<i>Access for people with disabilities.</i>	The new development works are to comply with: ▪ The Disability (Access to Premises — Buildings), Standards 2010; ▪ Part D3 of the BCA; ▪ Australian Standard AS 1428.1-2009. Buildings and parts of buildings must be accessible as required by Table D3.1 of the BCA, unless exempted by Clause D3.4 of the BCA, which requires access as follows:

3.4 – Services and Equipment (Section E, BCA)

Item	Comment
<i>Hydrant System</i>	The new development works are required to be provided with a hydrant system in accordance with the provisions of Clause E1.3 of the BCA and AS2419.1-2005. The existing system will be modified to provide coverage in accordance with AS2419.1-2005. The hydrant system is to be designed and certified by an accredited fire services engineer at the construction certificate stage.
<i>Hose Reel System</i>	The new development works are required to be provided with a fire hose reel system in accordance with the provisions of Clause E1. 4 of the BCA and AS2441-2005. The existing system will be modified to provide coverage in accordance with AS2441-2005. The hose reel system is to be designed and certified by an accredited fire services engineer at the construction certificate stage.
<i>Sprinkler System</i>	The new development works are required to be provided with a automatic sprinkler system in accordance with the provisions of Clause E1. 5 of the BCA and AS2118.1-2017 The existing system will be modified to provide coverage in accordance with AS2118.1-2017. The sprinkler system is to be designed and certified by an accredited fire services engineer at the construction certificate stage.
<i>Smoke Hazard Management.</i>	The development will be provided with a smoke hazard management system in accordance with the provisions of Clause/Table E2.2a of the BCA and NSW Table E2.2b of the BCA consisting of 1. Automatic fire detection and alarm system in accordance with AS1670.1-2018 2. Smoke exhaust system in accordance with AS1668.1-2015 The smoke hazard management systems are to be designed and certified by an accredited fire services engineer and mechanical at the construction certificate stage.

Item	Comment
<i>Lifts</i>	A stretcher facility in the lift will be required in accordance with Clause E3.2 of the BCA, as the development will have an effective height of more than 12m. A sign must be provided in accordance with BCA Clause E3.3 warning against the use of lifts in a fire. The proposed lifts shall also comply with all requirements nominated by AS1735.12 and Clause E3.6 of the BCA, with regards to facilities for people with disabilities.
<i>Emergency Lighting.</i>	Emergency lighting is required throughout the development in accordance with Clauses E4.2 and E4.4 of the BCA and AS2293.1-2018. The emergency lighting is to be designed and certified by an accredited electrical services engineer at the construction certificate stage.
<i>Exit Signs.</i>	Exit signs are required throughout the development in accordance with Clauses E4.5, E4.6 and E4.8 of the BCA and AS 2293.1-2018. The emergency lighting is to be designed and certified by an accredited electrical services engineer at the construction certificate stage.
<i>EWIS</i>	The development will require a early warning and intercommunication system (EWIS) throughout the entire building complying with Clause E4.9 of the BCA and AS1670.4-2018. The EWIS is to be designed and certified by an accredited fire services engineer at the construction certificate stage.

3.5 – Health and Amenity (Section F, BCA)

Item	Comment
<i>Damp & Weatherproofing.</i>	Adequate measures will be employed to ensure compliance Part F1 of the BCA is achieved in terms of weatherproofing the external façade of the building.
<i>Sanitary & Other Facilities.</i>	Assessment of the architectural design confirms the existing and proposed facilities will be adequate to satisfy the requirements of Clause/Table F2.3 of the BCA.
<i>Sanitary Facilities for People with Disabilities.</i>	Facilities will be provided in accordance with the provisions of Clause F2.4 of the BCA and AS 1428.1-2009.
<i>Ventilation</i>	The building is required to be provided with ventilation system in accordance with the provisions of Clause F4.5 of the BCA. The mechanical ventilation system is to be designed by an appropriately qualified mechanical engineer at the construction certificate stage.
<i>Lighting</i>	Artificial lighting will be provided throughout the new development works in accordance with the provisions of Clause F4.4 of the BCA and AS1680.1. The artificial lighting system is to be designed by an appropriately qualified electrical engineer at the construction certificate stage.

3.6 – Energy Efficiency (Section J, BCA)

Item	Comment
<i>Building Fabric</i>	The external fabric to the new development works which contains a conditioned space will be appropriately insulated in accordance with Part J1 of the BCA. The building is capable of compliance subject to detailed design. Full documentation is to be provided for assessment at the Construction Certificate stage.

Item	Comment
<i>Building Sealing</i>	The external fabric of the new development works which contains a conditioned space will be appropriately sealed in accordance with Part J3 of the BCA. The building is capable of compliance subject to detailed design. Full documentation is to be provided for assessment at the Construction Certificate stage.
<i>Air-Conditioning and Ventilation System</i>	The air-conditioning and ventilation system of the development is required to be designed to comply with Part J5 of the BCA. The building is capable of compliance subject to detailed design. The mechanical ventilation system is to be designed by an appropriately qualified mechanical engineer at the construction certificate stage.
<i>Artificial Lighting and Power</i>	The building is to maintain maximum lighting power levels and control systems as applicable. The design of lighting systems must comply with Part J6 of the BCA. The building is capable of compliance subject to detailed design. The artificial lighting and power system is to be designed by an appropriately qualified electrical engineer at the construction certificate stage.
<i>Hot Water Supply</i>	Hot water supply systems will be installed in accordance with Part J7 of the BCA and AS/NZS 3500.4. The building is capable of compliance subject to detailed design. Full documentation is to be provided for assessment at the Construction Certificate stage.
<i>Facilities for Energy Monitoring</i>	The building is to have facilities energy monitoring in compliance with Clause J8.3 of the BCA The building is capable of compliance subject to detailed design. The artificial lighting and power system is to be designed by an appropriately qualified electrical engineer at the construction certificate stage.

3.7 – Special Use Buildings (NSW Part H101 – Entertainment Venues, BCA)

Item	Comment
<i>Fire Separation</i>	The new Entertainment Venue will be fire separated from the remainder of the building with construction of not less than 60/60/60 in accordance with NSW Clause H101.2 of the BCA
<i>Stage Construction</i>	The stage to the main auditorium exceeds 150m² and is required to be fire separated with a stage curtain in accordance with NSW Clause H101.5.4 and H101.7. Assessment of the architectural design has revealed that the safety curtain is not proposed to separate the stage in accordance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.
<i>Seating in Rows</i>	Seating within the main auditorium and Live Room are to comply with the provisions of NSW Clause H101.11 of the BCA. Assessment of the architectural design has revealed that the seating layout will not achieve compliance with the DTS provisions and therefore it will necessary to undertake a fire safety engineering assessment to address the extended distance of travel having consideration to the relevant Performance Requirements of the BCA.
<i>Guardrails</i>	Guardrails are to be provided to the seating area to main auditorium and Live Room in accordance with the provisions of NSW Clause H101.13 of the BCA The building is capable of compliance subject to detailed design. Full documentation is to be provided for assessment at the Construction Certificate stage.
<i>Electrical Mains Installation</i>	The electrical mains installation within the entertainment venue is to comply with the provisions of NSW Clause H101.19 of the BCA. The building is capable of compliance subject to detailed design. The electrical mains installation within the entertainment venue is to be designed by an appropriately qualified electrical engineer at the construction certificate stage.

Item	Comment
<i>Lighting</i>	The lighting system within the main auditorium and Live Room are to comply with the provisions of NSW Clause H101.20 of the BCA. The building is capable of compliance subject to detailed design. The lighting system within the main auditorium and Live Room is to be designed by an appropriately qualified electrical engineer at the construction certificate stage.

4.0 – Fire safety and other measures

4.1 – Proposed Fire Safety Measures

In terms of the proposed buildings the following fire safety measures may be required:

Fire Safety Measure	Standard of Performance
Automatic fail safe devices	BCA 2019 Clause D2.19, D2.21, Spec C3.4 AS1670.1-2018
Automatic fire detection and alarm system	BCA 2019 Clause E2.2, Spec. E2.2a, AS 1670.1-2018
Automatic fire suppression system	BCA 2019 Clause C2.3, E1.5, Spec. E1.5, AS2118.1-2017
Automatic shutdown air handling systems	BCA 2019 Clause E2.3 NSW Table E2.2b
Emergency lighting	BCA 2019 Clause E4.2 & E4.4, AS293.1-2018
Exit and directional signage	BCA 2019 Clause E4.4, E4.5, (NSW E4.6) & E4.8, AS2293.1-2005
EWIS	BCA 2019 Clause E4.9, AS1670.4-2018
Fire dampers	BCA 2019 Clause E2.2, AS/NZS 1668.1-2015, AS1682.2-2015
Fire doorsets	BCA 2019 Clause C3.6, Spec C3.4, AS 1905.1-2015
Fire Engineering Report	Report to be prepared by Minerva Group International Fire Engineering Guidelines
Fire hydrant systems	BCA 2019 Clause C2.12, E1.3, AS 2419.1-2005
Fire hose reel systems	BCA 2019 Clause E1.4, AS 2441-2005
Fire seals (protecting openings and service penetrations in fire resisting components of the building)	BCA 2019 Clause C3.15, Spec C3.15, Manufacturer's specifications
Openings in fire-isolated lift shafts	BCA 2019 Clause C3.10, AS 1735.11-1986
Lightweight construction	BCA 2019 Clause C1.8, Spec A2.3, Spec C1.8, Manufacturer's specifications
Portable fire extinguishers	BCA 2019 Clause E1.6, AS 2444-2001
Smoke exhaust system	BCA 2019 Clause E2.2, Spec E2.2b, AS/NZS1668.1-2015
Warning and operational signs	BCA 2019 Clause C3.6, D2.23, D3.6, E3.3, NSW H101.8 Clause 183 of the Environmental Planning and Assessment Regulation 2000

5.0 – Conclusion

5.1 – Conclusion

It is the opinion of this office the proposed performing arts centre is capable of achieving compliance with the requirements of the Building Code of Australia (BCA) 2019, Amendment 1 and relevant adopted standards without undue modification to the design or appearance of the building.

Whilst the above assessment has been made as a means of achieving compliance with the various provisions of BCA Performance Requirements their acceptability has not been verified at this time. It will be necessary for the design to be reviewed by an appropriately qualified person prior to the issue of a Construction Certificate for the works.

Author,



Vic Lilli

For **VPL Consulting Pty Ltd**

6.0 – References

6.1 – Basis of Report

This BCA Capability report has been prepared on the basis of the following-

1. Architectural Plans as prepared ALTIS Architecture

Drawing No.	Title	Revision	Date
A1103	Level 2 – Orchestra	E	01.12.2021
DA0000	Cover Sheet and Location Plan	B	11.02.2022
DA0001	Site Analysis Plan	B	11.02.2022
DA1130	Proposed Plan – L02 – Orchestra Pit	C	09.03.2022
DA1140	Proposed Plan – L03 – Stalls	D	01.12.2021
DA1150	Proposed Plan – L04 – Circle Lobby – Lower Circle	D	09.03.2022
DA1160	Proposed Plan – L05 – Live Room Lobby – Main Auditorium Lobby	D	09.03.2022
DA1170	Proposed Plan – L06 – Live Room Upper – Forestage Grid	D	09.03.2022
DA1180	Proposed Plan – L07 – Loading Gallery – Lower Roof – Extended Plant Room	D	09.30.2022
DA1190	Proposed Plan – Fly Tower – Grid and Roof Levels	D	09.03.2022
DA2100	Proposed Elevations – Whole Site	A	11.02.2022
DA2110	Proposed Elevations		
DA2111	Proposed Elevations		
DA3000	Sections	B	11.02.2022

2. Building Code of Australia (BCA) 2019, Amendment 1;
3. Environmental Planning and Assessment Act, 1979, and Regulation
4. Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021