

A background graphic consisting of a dark blue diagonal band across the middle of the page. Behind this band is a grayscale image of a city skyline with several skyscrapers. Overlaid on the entire background is a pattern of white, 3D wireframe cubes of varying sizes and orientations, creating a sense of depth and architectural structure.

Building Code of Australia

Assessment Report

Project Address: 277 - 283 High Street, Maitland
Maitland Town Hall

Client: Maitland City Council
Report Number: 183885B
Revision: 03

5 APRIL 2019

REPORT REVISION HISTORY

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02	01.04.19	Review of revised plans and assessment under BCA 2019				
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Certification

This report has been authorised by City Plan Services P/L, with input from a number of other expert consultants. To the best of our knowledge the accuracy of the information contained herein is neither false nor misleading. The comments have been based upon information and facts that were correct at the time of writing.

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1. EXECUTIVE SUMMARY

The development, the subject of this report, comprises upgrade works to the Maitland Town Hall and associated facilities located at 277 - 283 High Street, Maitland. A proposed Administration Building will connect to the Town Hall but will be separated by a fire wall to enable the two parts to be treated as separate buildings for the purposes of the BCA. The new Administration Building will be constructed to comply with requirements for Type A construction. The Maitland Town Hall is required to be of Type B construction.

The Maitland Town Hall and associated facilities were constructed in 1888 – 1890 and are of considerable heritage significance. Upgrade works to the hall were undertaken in 2015 – 2016 to address non-compliances with the BCA as identified in BCA Compliance Assessment Report prepared by AE & D, Report No 5647, Revision 01, dated 23.07.15. Alternative solutions for a number of non-compliances were formulated and documented in a Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.





BVN Architects

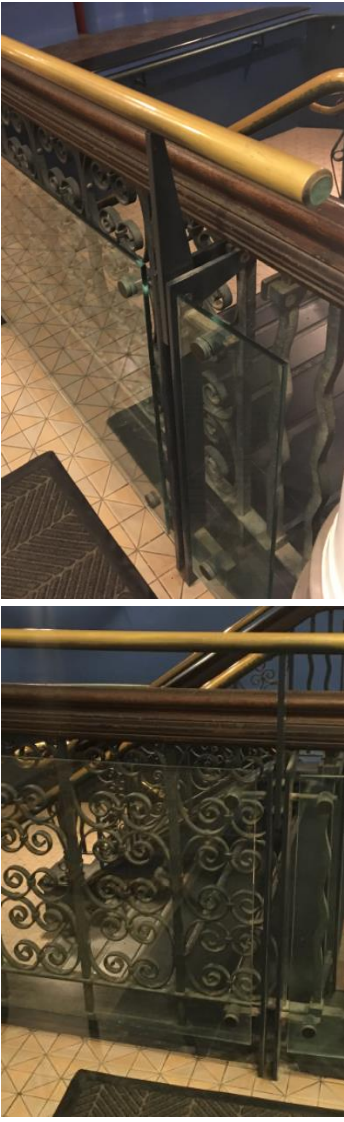
This report relates to the Maitland Town Hall and associated facilities only and has been prepared on behalf of Maitland City Council to establish compliance with the Building Code of Australia and provides recommendations for upgrade works where it is considered necessary in light of clause 94 of the Environmental Planning and Assessment Regulation 2000. This regulation requires a consent authority to consider whether it would be appropriate to require an existing building to be brought into total or partial conformity with the Building Code of Australia when determining a development application.

The scope of the report includes the following sections of the BCA:

- Section C – Fire Resistance
- Section D – Access and Egress (excluding Part D3)
- Section E – Services and Equipment
- Section F – Health and Amenity
- Section G – Ancillary Provisions
- Section H – Special Use Buildings

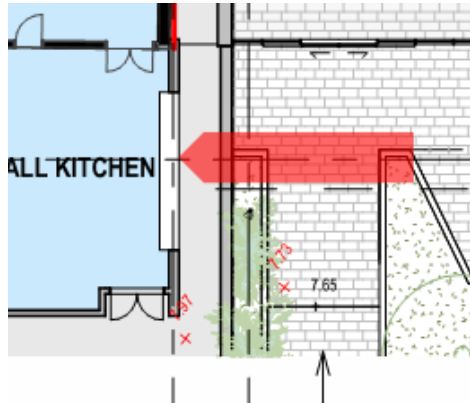
The following upgrade works are recommended:

<p>Enclosure of space under stairs (D2.8)</p>	<p>The enclosing walls and ceilings of the enclosure under the main stairs are to have a FRL of at least 60/60/60 and the access doorway is to be fitted with a -/60/30, self-closing fire door or a performance solution is to be provided. Alternatively, the enclosing walls are to be removed.</p>  
<p>Goings and risers (D2.13) and landings (D2.14)</p>	<p>Treads to the main stairs are to be provided with a non-slip finish or nosing strip.</p>

	<p>The width of the treads on the stairs leading to the stage do not comply with the prescribed minimum dimension of 250 mm (240 mm). The stairs are to be reconfigured or a performance solution to be provided.</p>
<p>Barriers to prevent falls (D2.16)</p>	<p>The height of the balustrade on the main stairs is to be upgraded to comply with the minimum height requirements of not less than 865mm above the nosings of the treads and not less than 1m along landings more than 500mm in length.</p> 

	<i>Upgrade of heritage balustrade with glass panels and brass handrail. QVB Sydney</i>
Swinging door (D2.20)	Doors in or serving a required exit must swing in the direction of egress. The main entry doors are to be subject to a performance solution to enable the doors to swing inwards.
Fire hose reels (E1.4)	The fire hose reel system is to be upgraded throughout the Class 9b parts of the building. Hose reels are not required within the Class 5 parts of the building.

Other matters for consideration/clarification

Protection of openings in external walls (C3.2)	<p>Any openings in external walls located within 6m of the proposed Administrative building are required to be protected in accordance with C3.4.</p> 
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2. INTRODUCTION

2.1. General

The development, the subject of this report, comprises upgrade works to the Maitland Town Hall and associated facilities located at 277 - 283 High Street, Maitland. A proposed Administration Building will connect to the Town Hall but will be separated by a fire wall to enable the two parts to be treated as separate buildings for the purposes of the BCA. The new Administration Building will be constructed to comply with requirements for Type A construction. The Maitland Town Hall is required to be of Type B construction.

The Maitland Town Hall and associated facilities were constructed in 1888 – 1890 and are of considerable heritage significance. Upgrade works to the hall were undertaken in 2015 – 2016 to address non-compliances with the BCA as identified in BCA Compliance Assessment Report prepared by AE & D, Report No 5647, Revision 01, dated 23.07.15. Alternative solutions for a number of non-compliances were formulated and documented in a Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.

2.2. Purpose of Report

This report relates to the Maitland Town Hall and associated facilities only and has been prepared on behalf of Maitland City Council to establish compliance with the Building Code of Australia and provides recommendations for upgrade works where it is considered necessary in light of clause 94 of the Environmental Planning and Assessment Regulation 2000. This regulation requires a consent authority to consider whether it would be appropriate to require an existing building to be brought into total or partial conformity with the Building Code of Australia when determining a development application.

2.3. Report Basis

The following information has been directly referenced or relied upon in the preparation of this report:

- (a) Architectural plans prepared by BVN Architects as identified in the attached Appendix 1.
- (b) The Building Code of Australia 2019 (Preview version), inclusive of NSW variations (See Note 1).
- (c) Section C – Fire Resistance
- (d) Section D – Access and Egress (excluding Part D3)
- (e) Section E – Services and Equipment
- (f) Section F – Health and Amenity
- (g) Section G – Ancillary Provisions
- (h) Section H – Special Use Buildings
- (i) Environmental Planning and Assessment Act 1979.
- (j) Environmental Planning and Assessment Regulation 2000.

Note1: The Building Code of Australia 2019 will be adopted on 1 May 2019. The Preview version of BCA 2019 published by the Australian Building Codes Board is subject to change. The amendment

of the BCA in force at the date of lodgement of a Construction Certificate is the version called up by Clause 98 of the Environmental Planning & Assessment Regulation 2000 for the purpose of the building design. Therefore, comments may be subject to changes to comply with updated versions of the Building Code of Australia.

2.4. Exclusions and Limitations

This report does not consider the following, except where specifically mentioned:

- Structural design.
- Section B and Part D3 of the BCA
- The Disability Discrimination Act 1992 (access for people with disabilities has been assessed in accordance with Part D3 of the BCA, however additional measures may be required to be provided subject to the Disability Discrimination Act 1992)
- Disability (Access to Premises – Building) Standards 2010.

3. BUILDING CODE OF AUSTRALIA DESCRIPTION

3.1. Classification (A3.2)

The proposed building consists of:

Basement	Lobby – Class 9b – Entertainment Venue Plant Class 9b
Ground Floor	Hall – Class 9b – Entertainment Venue Supper Room/Kitchen – Class 9b Meeting Rooms – Class 9b * The converted store room occupies less than 10% of the floor area on this level and can be considered as a Class 9b part.
First Floor	Council Chambers and Meeting Rooms – Class 9b Mayors/Councillors Rooms – Class 9b

3.2. Effective Height (A1.1)

The proposed building will have an effective height of less than 12m (5.22m).

3.3. Rise in Storeys (C1.2)

The proposed building will consist of a rise in storeys of three (3).

3.4. Type of Construction (C1.1)

Type B construction in accordance with Specification C1.1 of the BCA, is the applicable type of construction.

3.5. Climate Zone (Section J)

Climate zone 6 is the relevant climate zone.

4. BUILDING CODE OF AUSTRALIA ASSESSMENT

4.1. Structure (BCA Section B)

BCA Clause	Title	Assessment and Comment	Status
B1.1	Resistance to actions	The resistance of the building must be greater than the most critical action effects resulting from different combinations of actions in accordance with this clause.	New works capable of complying
B1.2	Determination of individual actions	A structural engineer is to provide design certification and details at the Construction Certificate stage for all new structural elements.	New works capable of complying
B1.4	Determination of structural resistance of materials & forms of construction	A structural engineer is to provide design certification at the Construction Certificate stage for all new structural elements.	New works capable of complying
B1.5	Structural Software	Not applicable	
B1.6	Construction of buildings in flood hazard areas	Not applicable	

4.2. Fire Resistance (BCA Section C)

BCA Clause	Title	Assessment and Comment	Status
C1.1	Type of construction required	The type of fire resisting construction applicable is Type B construction. The minimum FRL's are to be achieved.	New works capable of complying
C1.2	Calculation in rise in storeys	The building contains a RIS of 3.	Note
C1.8	Lightweight construction	Any proposed lightweight construction is to comply with Specification C1.8.	New works capable of complying

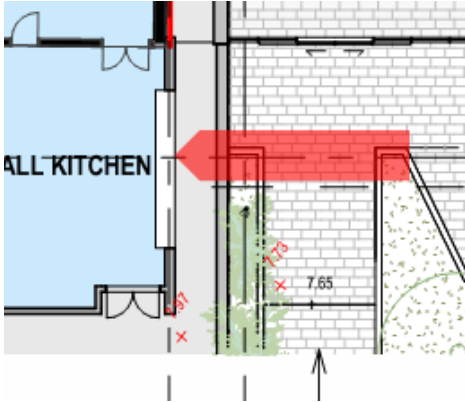
BCA Clause	Title	Assessment and Comment	Status
C1.9	Non-combustible building elements	<ol style="list-style-type: none"> 1. In a building required to be Type A or B construction, the following building elements and their components must be non-combustible: <ol style="list-style-type: none"> (a) External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation. (b) The flooring and floor framing of lift pits. (c) Non-loadbearing internal walls required to be fire resisting. 2. 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 – <ol style="list-style-type: none"> (a) A building required to be Type B construction, subject to C2.10, in: <ol style="list-style-type: none"> (i) a Class 2, 3 or 9 building; and (ii) a Class 5, 6 or 8 building if the shaft connects more than 2 storeys. 3. A loadbearing internal wall and loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. 4. The requirements of (1) and (2) do not apply to gaskets, caulking, sealants and dampproof courses. 5. The following materials may be used wherever a non-combustible material is required: <ol style="list-style-type: none"> (a) Plasterboard. (b) Perforated gypsum lath with a normal paper finish. (c) Fibrous-plaster sheet. (d) Fire-reinforced cement sheeting. (e) Pre-finished metal sheeting having a combustible surface finish not exceeding 1mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. 	New works capable of complying

BCA Clause	Title	Assessment and Comment	Status
		(f) Sarking type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (g) Bonded lamination materials where – (i) Each lamina, including any core, is non-combustible; and (ii) Each adhesive layer does not exceed 1mm in thickness and the total thickness of the adhesive layers does not exceed 2mm; and (iii) The Spread of Flame Index and the Smoke-Developed Index of the bonded laminated materials as a whole do not exceed 0 and 3 respectively.	
C1.10	Fire hazard properties	Proposed internal linings, materials and assemblies are to be selected to comply with the required fire hazard properties of Specification C1.10. Evidence of compliance (test certificates) shall be obtained from the supplier or manufacturer.	New works capable of complying
C1.11	Performance of external wall in fire	Not applicable	N/A
C1.13	Fire protected timber: Concession	Not applicable	N/A
C1.14	Ancillary Elements	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: 1. An ancillary element that is non-combustible. 2. A gutter, downpipe or other plumbing fixture or fitting. 3. A flashing. 4. A grate or grille not more than 2m ² in area associated with a building service. 5. An electrical switch, socket-outlet, cover plate or the like.	

BCA Clause	Title	Assessment and Comment	Status
		6. A light fitting. 7. A required sign. 8. A sign other than one provided under (1) or (7) that- (a) Achieves a ground number of 1 or 2; and (b) Does not extend beyond one storey; and (c) Does not extend beyond one fire compartment; and (d) Is separated vertically from other signs permitted under (8) by at least 2 storeys. 9. An awning, sunshade, canopy, blind or shading hood other than one provided under (1) that – (a) Meets the requirements of Table 4 of Specification C1.10 as for an internal element; and (b) Serves a storey – (i) At ground level; or (ii) Immediately above a storey at ground level; and (iii) Does not serve an exit, where it would render the exit unusable in a fire. 10. A part of a security, intercom or announcement system. 11. Wiring. 12. A paint, lacquer or a similar finish. 13. A gasket, caulking, sealant or adhesive directly associated with (1) to (11).	
C2.2	General floor area and volume limitations	The following maximum fire compartmentation floor area and volume limitations apply to the Class 5 and 9b fire compartments: Floor area – 5,500 m ² Volume – 33,000 m ³ <i>The building complies with the general floor area and volume limitations identified by this clause.</i>	Complies
C2.3	Large Isolated buildings	Not applicable	N/A

BCA Clause	Title	Assessment and Comment	Status
C2.4	Open space and vehicular access	Not applicable	N/A
NSW C2.5	Class 9a and 9c buildings	Not applicable	N/A
C2.6	Vertical separation of openings in external walls	Openings in external walls are separated as required.	Complies
C2.7	Separation by fire walls	A fire wall is to be provided to separate the existing building and the proposed new building. The fire wall is required to achieve an FRL of 120/120/120.	Capable of complying
C2.8	Separation of classifications in the same storey	<p>If a building has parts of different classifications located alongside one another in the same storey,</p> <ul style="list-style-type: none"> ▪ each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or ▪ the parts must be separated in that storey by a fire wall. <p><i>The different classifications on Level 1 are required to have the same FRL and are not required to be fire separate.</i></p> <p><i>See H below for separation requirements in entertainment venues</i></p>	Complies
C2.9	Separation of classifications in different stories	Not applicable	N/A
C2.10	Separation of lift shafts	The proposed lift connects the basement and Ground Floor and is not required to be enclosed in a fire rated shaft.	Capable of complying
C2.11	Stairways and lifts in one shaft	None of the stairs and lifts are within the same shafts.	N/A

BCA Clause	Title	Assessment and Comment	Status
C2.12	Separation of equipment	<p>The following rooms are required to be fire separated from the remainder of the building by 120/120/120 FRL construction:</p> <ul style="list-style-type: none"> ▪ Lift motor rooms and lift control panels. ▪ Emergency Generators. ▪ Central smoke control plant. ▪ Hydrant pumps. ▪ Boilers. ▪ Battery rooms. <p>The building does not contain any of the above room and the requirements of this provision do not apply.</p>	Capable of complying
C2.13	Electricity supply system	<p>Any main switchboard located in the building which sustains emergency equipment operating in emergency mode, is required to be fire separated from the remainder of the building by 2 hr fire resisting construction.</p> <p>Construction should achieve an FRL of 120/120/120, doorways are required achieve an FRL of -/120/30 and to be self-closing and all penetrations in enclosures are to be appropriately fire stopped.</p> <p>All switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear.</p> <p>Electrical conductors and switchboards are required to comply with this clause.</p>	<p>TBC</p> <p>Prior to issue of the construction certificate</p>
C2.14	Public corridors in Class 2 & 3 buildings	Not applicable	N/A

BCA Clause	Title	Assessment and Comment	Status
C3.2	Protection of openings in external walls	<p>Any openings located within 3m of the proposed Administrative building will require protection in accordance with C3.4.</p> 	N/A
C3.3	Separation of external walls and associated openings in different fire compartments	The building does not contain separate fire compartments which are applicable to this clause.	N/A
C3.4	Acceptable method of protection	<p>Windows requiring protection must be protected by one of the means:</p> <ul style="list-style-type: none"> ▪ External wall-wetting sprinklers with windows that are automatically or permanently fixed in the closed position. ▪ -/60/- fire windows (Automatic or permanently fixed in the closed position) ▪ -/60/- automatic fire shutters ▪ Doorways which require protection can be protected externally with wall wetting sprinklers with doors that are self-closing or automatic closing, or ▪ -/60/30 fire doors which are self-closing or automatic closing. <p>Fire doors, fire windows and fire shutters are required to comply with Specification C3.4.</p>	Note

BCA Clause	Title	Assessment and Comment	Status
		Alternatively, protection of openings could be justified against the performance provisions of the BCA, via a fire engineered alternative solution.	
C3.5	Doorways in fire walls	Doorways in the fire wall are required to be protected by -/120/30, automatic closing fire doors or fire shutters. The automatic closing operation must be activated by smoke detectors installed in accordance with this clause and AS1670.1 – 2015 and the sprinkler system within the proposed Administration Building.	Capable of complying
C3.6	Sliding fire doors	The building will not contain any sliding fire doors.	N/A
C3.7	Protection of doorways in horizontal exits	The building does not contain horizontal exits.	N/A
C3.8	Openings in fire isolated exits	The building does not contain fire-isolated exits.	N/A
C3.9	Service penetrations in fire isolated exits	The building does not contain fire-isolated exits.	N/A
C3.10	Fire isolated lift shafts	Not applicable	N/A
NSW C3.11	Bounding construction	Not applicable	N/A
C3.12	Openings in floors and ceilings for services.	Not applicable	N/A
C3.15	Openings for service installations	Services that penetrate a building element that is required to have an FRL must be protected utilising one of the options listed under this clause. Test certificates describing each individual service penetration and configuration will be required at the construction certificate stage.	Any new penetrations are capable of complying.

BCA Clause	Title	Assessment and Comment	Status
C3.16	Construction joints	Construction joints in building elements required to be fire resistant are required to be protected in accordance with this clause.	Any new construction joints re capable of complying.
C3.17	Columns protected with lightweight construction to achieve an FRL	Not applicable	N/A

4.3. Fire-Resisting Construction (Specification C1.1)

BCA Clause	Title	Assessment and Comment	Status
2.1	Exposure to fire source features	The requirements of this provision apply to the subject building.	Note
2.2	Fire protection for support of another part	When determining FRL's applicable to a particular building element, the requirements of this clause are required to be complied with.	Note
2.3	Lintels	Lintels are to be protected as required by the requirements of this clause.	Any new penetrations are capable of complying.
2.4	Method of attachment not to reduce the fire resistance of building elements	Any attachments such as louvers over windows, external wall cladding to the façade or any type of combustible material is required to comply with C1.10, Spec C1.10 of the BCA and the requirements of this clause.	Any new penetrations are capable of complying.
2.5	General concessions	Non-combustible structures on the roof may be exempt under the requirements of this provision. Further details are to be provided with the construction documentation.	Note
2.6	Mezzanine floors: concession	The building does not contain mezzanine's that are subject to this provision.	N/A

BCA Clause	Title	Assessment and Comment	Status
2.7	Enclosure of shafts	The building does not contain any fire rated shafts	N/A
2.9	Residential Age Care building: Concession	The requirements of this provision apply to the subject building.	N/A
4.1	Fire resistance of building elements	<p>Generally building elements are required to achieve 120 minutes.</p> <p>In addition, the following requirements apply:</p> <ul style="list-style-type: none"> ▪ External walls must be non-combustible, and all elements used in the external wall must be tested and deemed non-combustible under AS1530.1-1994. ▪ Common walls and the flooring and floor framing of lift pits must be non-combustible ▪ a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and ▪ a non-loadbearing internal wall required to be fire-resisting or lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction. <p>In Class 9b buildings of Type B construction, a floor separating storeys or above a space for the accommodation of motor vehicles or used for storage or any other ancillary purpose must</p> <ol style="list-style-type: none"> i. be constructed so that it is at least of a standard achieved by a floor/ceiling system incorporating a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes: or ii. have a FRL of at least 30/30/30: or iii. have a fire protective covering on the underside of the floor, including beams incorporated in it if the floor is non-combustible or of metal. 	Any new penetrations are capable of complying.

BCA Clause	Title	Assessment and Comment	Status
		<i>The floor separating the basement and the Ground Floor is of timber construction and is not lined on the underside as required. Check AE & D FER</i>	

4.4. Access and Egress (BCA Section D)

BCA Clause	Title	Assessment and Comment	Status
D1.2	Number of exits required	The building is required to be provided with a minimum of one exit.	Complies
D1.3	When fire isolated exits are required	The building does not contain fire-isolated exits	N/A
D1.4	Exit travel distances	Class 5 and 9b parts - No point on a floor must be more than 20 m from an exit, or a point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m.	Complies
D1.5	Distance between alternative exits	Exits that are required to serve as alternative means of egress must not be more than 60m apart. The distance between alternative exits comply. Exits required as alternative means of egress must be located not less than 9m apart and located so that the alternative paths of travel do not converge such that they become less than 6m apart. The exits comply with the requirements above.	Complies
NSW D1.6	Dimensions of exits and paths of travel to exits	A required exit or path of travel to an exit are required to be a minimum unobstructed height of not less than 2m and minimum width of 1m.	Complies
D1.7	Travel via fire isolated exits	Not applicable	N/A

BCA Clause	Title	Assessment and Comment	Status
D1.8	External Stairs or ramps in lieu of Fire-isolated exits	Not applicable	N/A
D1.9	Travel via non-fire-isolated stairways or ramps	A non-fire-isolated stair serving as a required exit must provide a continuous means of travel by its own flights and landings to a level at which egress to a road or open space is available.	Complies
D1.10	Discharge from exits	Exits must not be blocked at a point of discharge and where necessary suitable barriers must be provided to prevent vehicles from blocking the exit or access to it.	Complies
D1.11	Horizontal exits	Horizontal exits are not proposed.	N/A
D1.12	Non-required stairways, ramps or escalators	Non-required stairways, ramps or travelators are not proposed.	N/A
D1.13	Number of persons accommodated	Populations have been assessed in accordance with Table D1.13.	Note
D1.16	Plant rooms and lift rooms: concession	A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area less than 100m ² or plant or lift machine rooms with a floor area of less than 200 m ² , for all but one point of egress. Ladders are required to comply with AS1657 and the requirement of this clause.	Note
D1.17	Access to lift pits	Not applicable	N/A
D2.2	Fire-isolated stairways and ramps	Not applicable	N/A
D2.3	Non-fire isolated stairs and ramps	In buildings having a rise in storeys of more than 2, required stairs which are not in a fire resisting shaft must be constructed of – a) Non combustible materials: or b) Reinforced or pre stressed concrete: or	Existing stairs not required to be upgraded.

BCA Clause	Title	Assessment and Comment	Status
		<p>c) Steel, in no part not less than 6 mm thick: or</p> <p>d) Timber that –</p> <ul style="list-style-type: none"> i. Has a finished thickness of not less than 44 mm: and ii. Has an average density of not less than 800kg/m³ at a moisture content of 12%: and iii. Has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde glue. <p><i>The main stairs may not comply. Upgrade not considered necessary.</i></p>	
D2.4	Separation of rising and descending stair flights	Not applicable	N/A
D2.7	Installation in exits and paths of travel	<p>The telecommunication and electrical cupboards are required to be enclosed with non-combustible construction. Doorways are required to be backed with non-combustible construction with smoke seals installed to all door leaves.</p> <p>All services which penetrate the cupboard are also required to be smoke sealed.</p>	New works capable of complying
D2.8	Enclosure of space under stairs and ramps	<p>The space below the required non fire-isolated stairways must not be enclosed to form a cupboard or similar enclosed space unless the enclosing wall and ceilings have a FRL of at least 60/60/60 and any doorway protected with a self-closing, -/60/30 fire door.</p> <p>Recommendation</p> <p><i>The enclosure beneath the main stairs does not comply with these requirements and should be upgraded or subject to a performance solution. Alternatively, the enclosing walls should be removed.</i></p>	Upgrade required or performance solution

BCA Clause	Title	Assessment and Comment	Status
D2.9	Width of stairways	The required width of a stairway must be measured clear of all obstructions (eg skirting).	Note
D2.10	Pedestrian ramps	The building does not contain any pedestrian ramps.	N/A
D2.11	Fire-isolated passageways	Not applicable	N/A
D2.12	Roof as open space	Not applicable	N/A
NSW D2.13	Goings & risers	<p>Goings and risers dimensions must comply with the requirements of this clause.</p> <p>Treads must have-</p> <ul style="list-style-type: none"> i. A surface with a slip resistance classification of not less than P3 or R10: or ii. A strip at the nosing of the treads and landings with a slip resistance classification of not less than P3 or R10. <p><i>Dimensions of goings and risers on main stairs comply.</i></p> <p><i>Dimensions of goings on stairs leading to the stage do not comply. These treads are 240 mm and do not comply with the prescribed minimum dimension of 250 mm.</i></p> <p>Recommendation</p> <p><i>Treads to the main stairs are to be provided with a non-slip finish or nosing strip.</i></p> <p><i>Stairs leading to the stage are to be reconfigured or a performance solution to be provided.</i></p>	<p>Dimensions of treads and risers to main stairs comply.</p> <p>Dimensions of treads on stairs leading to stage do not comply</p> <p>Non slip strips to be provided to nosings.</p>
D2.14	Landings	<p>Landings must –</p> <ul style="list-style-type: none"> i. Be not less than 750 mm long and where this involves a change in direction, the length is measured 500 mm from the inside edge: and 	Upgrade to main stairs required

BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> ii. Have a slip resistance classification of not less than P3 or R10; or iii. A strip at the nosing of the treads and landings with a slip resistance classification of not less than P3 or R10. <p>Recommendation</p> <p><i>Landings on the main stairs to be provided with a non-slip finish or nosing strip.</i></p>	
NSW D2.15	Thresholds	Thresholds of doorways must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless the doorway opens to a road or open space and the doorsill is not more than 190 mm above the finished surface of the ground.	Complies
NSW D2.16	Barriers to prevent falls	<p>Balustrades are to be of a height of not less than-</p> <ul style="list-style-type: none"> i. 865 mm above the nosings of stair treads: and ii. 1000 mm above landings which are more than 500 mm in length: and iii. Have openings which do not allow the passage of a 125 mm sphere. <p><i>The height of the balustrade to the main stair and landing does not comply with these requirements.</i></p> <p>Recommendation</p> <p><i>The balustrade is to be upgraded to comply</i></p>	Upgrade required
D2.17	Handrails	Handrails are required along at least one side of all stairways or ramps, or on both sides of stairs or ramps with a total width of more than 2m.	Complies
D2.18	Fixed platforms, walkways, stairways & ladders	Fixed platforms and ladders are required to comply with AS 1657.	Complies
NSW D2.19	Doorways and doors	<p>Doorways serving as required exits or forming part of a required exit must not be fitted with-</p> <ul style="list-style-type: none"> i. A revolving door: or 	New works capable of complying

BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> ii. A roller shutter or tilt up door: or iii. A sliding door unless it leads directly to a road or open space and the door is able to be opened manually with a force of not more than 110N: and iv. If fitted with a door which is power operated – <ul style="list-style-type: none"> A. It must be able to be opened manually with a force of not more than 110N: and B. If it leads directly to a road or open space it must open automatically if there is a power failure or on activation of a fire or smoke alarm anywhere in the compartment. 	
D2.20	Swinging doors	<p>A swinging door must not encroach and impede the path of travel of people already in a required exit by more than 500mm or 100mm when fully open.</p> <p>Doors in or serving as a required exit must swing in the direction of egress unless it is fitted with a device for holding it in the open position.</p> <p><i>The main entry doors do not swing in the direction of egress. Doors swinging inwards can be subject to a performance solution.</i></p> <p>Recommendation</p> <p><i>The doors to the main entry should be subject to a performance solution to enable the doors to swing inwards.</i></p>	Performance solution
NSW D2.21	Operation of latch	<p>Doors in required exits or forming part of a required exits must be readily openable without a key from the egress side, by a single hand downward action on a single device which is located between 900mm and 1.1m from the floor and comply with the requirements of this clause.</p> <p><i>Compliance to be confirmed</i></p> <p>Within the hall</p> <p>Doors within required exits must-</p>	Complies

BCA Clause	Title	Assessment and Comment	Status
		i. be readily openable without a key from the egress side, by a single hand pushing action on a single device which is located between 900mm and 1.1m from the floor; and ii. where two doors are, the above provisions need only apply to one door leaf if the width requirements of D1.6 are satisfied. <i>Door hardware within the hall complies. We are advised that hardware throughout the building was recently upgraded.</i>	
D2.22	Re-entry from fire-isolated exits	Not applicable	N/A
D2.23	Signs on doors	Not applicable	N/A
D2.24	Protection of openable windows	Not applicable	N/A
D2.25	Timber stairways: Concession	Not applicable	N/A

4.5. Services and Equipment (BCA Section E)

BCA Clause	Title	Assessment & Comment	Status
E1.3	Fire hydrants	A fire hydrant system must be provided in accordance with this clause to serve the whole building and must also be installed in accordance with AS2419.1. The building is to be served by external hydrants which comply with the above requirements	Complies
E1.4	Fire hose reels	A hose reel system must be provided to serve the whole building. The hose reel system must be installed in accordance with this clause and AS2441.	Upgrade required

BCA Clause	Title	Assessment & Comment	Status
		<p>The existing hose reel system is a Ministerial Specification 10 system and does not comply with current requirements</p> <p>Recommendation</p> <p><i>The hose reel system within the Class 9b part of the building is to be upgraded to comply with current requirements. Hose reels are not required within Class 5 parts of the building.</i></p>	
E1.5	Sprinklers	Sprinklers are provided over the stage in accordance with the Fire Engineering Report Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.	Note
E1.6	Portable fire extinguishers	Portable fire extinguishers are to comply with this provision and sections 1, 2, 3 and 4 of AS2444.	Complies
E1.8	Fire control centres	Not applicable	N/A
E1.9	Fire precautions during construction	<p>In a building under construction not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit.</p> <p>After the building has reached an effective height of 12 m the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storey's and any required booster connections must be installed.</p>	Complies
E2.2	General requirements	The mechanical ventilation system to the assembly building are required to automatically shut down (other than individual room units with a capacity not more than 1000 L/s, systems serving critical treatment areas and miscellaneous exhaust air systems installed in accordance with Sections 5 and 11 of AS/NZS 1668.1-2015) on the activation of a Spec E2.2 Clause 5 smoke	Complies

BCA Clause	Title	Assessment & Comment	Status
		detection system and any other fire detection system installed in the building. .	
E3.1	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.	New works capable of complying
E3.2	Stretcher facility in lifts	Not applicable	N/A
E3.3	Warning against use of lifts in fire	Warning signs must be displayed near every call button for a passenger lift or group of lifts except a small lift such as a dumb-waiter or the like that is for the transport of goods only. Signage is to be in accordance with this clause and must comply with the details and dimensions of Figure E3.3.	New works capable of complying
E3.4	Emergency lifts	Not applicable	N/A
E3.5	Landings	Access and egress to and from lift well landings must comply with the DTS provision of Section D	New works capable of complying
E3.6	Passenger lifts	The lifts are required to be accessible and a lift design statement certifying compliance with BCA 2016 Clause E3.6 and applicable clauses of AS1735.12-1999 is to be provided at the construction certificate stage.	New works capable of complying
E3.7	Fire service controls	Not applicable	N/A
E3.8	Aged care buildings	Not applicable	N/A
E3.9	Fire service recall operation switch	Not applicable	N/A
E3.10	Lift car fire service drive control switch	Not applicable	

BCA Clause	Title	Assessment & Comment	Status
E4.2	Emergency lighting requirements	Emergency lighting must be provided in accordance with this clause. Emergency lighting is required to comply with AS2293.1-2005.	Complies
E4.5	Exit signs	An exit signage must be provided in accordance with this clause. Exit signage is required to comply with AS2293.1-2005 and be clearly visible at all times.	Complies
NSW E4.6	Direction signs	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	Complies
E4.8	Design and operation of exit signs	Exit signs are to comply with AS2293.1-2005.	Complies
E4.9	Sound systems and intercom systems for emergency purposes	Not applicable	

4.6. Health and Amenity (BCA Section F)

BCA Clause	Title	Assessment and Comment	Status
F1.0	Deem to satisfy provisions	Performance requirement FP1.4, for the prevention of the penetration of water through external walls, is required to be complied with. Details are to be provided with construction documentation.	New works capable of complying

BCA Clause	Title	Assessment and Comment	Status
F1.1	Stormwater drainage	Stormwater drainage is required to be designed to comply with AS/NZS3500.3-2015. Construction documentation should demonstrate compliance	New works capable of complying
F1.4	External above ground membranes	Waterproofing membranes for external above ground use must comply with AS4654.1-2012 & AS4654.2-2012. Construction documentation should demonstrate compliance.	New works capable of complying
F1.5	Roof coverings	Lightweight metal roof sheeting is to comply with AS1562.1. Construction documentation should demonstrate compliance.	New works capable of complying
F1.6	Sarking	Sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS 4200 Parts 1 and 2. Construction documentation should demonstrate compliance.	New works capable of complying
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas are required to comply with this clause. Construction documentation should demonstrate compliance.	New works capable of complying
F1.9	Damp-proofing	Damp proofing is required to be provided in accordance with this clause.	New works capable of complying
F1.10	Damp-proofing of floor on ground	Damp proofing is required to be provided in accordance with this clause.	New works capable of complying
F1.11	Provision of floor wastes	Not applicable	N/A
F1.12	Sub-floor ventilation	The sub-floor space between the suspended floor of a building and the ground must be provided with cross ventilation, be cleared of all debris and	New works capable of complying

BCA Clause	Title	Assessment and Comment	Status
		<p>graded to prevent ponding and evenly spaced ventilation openings in accordance with this clause.</p> <p>The minimum sub-floor ventilation openings are to be achieved in accordance with Table F1.12 providing 6000 mm²/m wall.</p>	
F1.13	Glazed assemblies	Glazed assemblies to comply with AS 2047 as applicable.	New works capable of complying
F2.1	Facilities in residential buildings	Not applicable	N/A
F2.3	Facilities in Class 3 to 9 buildings	<p>Sanitary facilities must be provided in accordance with this clause and Table F2.3.</p> <p>Adequate means of disposal of sanitary towels must be provided in sanitary facilities for use by females.</p>	New works capable of complying
F2.5	Construction of sanitary compartments	<p>The construction of sanitary compartments is required to comply with this requirement.</p> <p>Doorways located less than 1.2m from the closet pan are required to swing outwards, slide or be capable of being removed from the outside (lift off hinges).</p>	New works capable of complying
F2.6	Interpretation: Urinals and washbasins	<p>A urinal may be - an individual stall or wall-hung urinal; or each 600mm length of a continuous urinal trough, or a closet pan used in place of a urinal.</p> <p>A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap.</p>	Note
F3.1	Height of rooms and other spaces	The minimum ceiling height requirements are to comply with the requirements of this provision. Generally, the building compliance however full construction documentation is to demonstrate compliance.	Complies

BCA Clause	Title	Assessment and Comment	Status
F4.1-4.3	Provision of natural light	Not applicable	N/A
F4.4	Artificial lighting	Artificial lighting is to be provided in accordance with AS/NZS1680.0 and in accordance with this clause to the common room.	New works capable of complying
F4.5-4.7	Ventilation of rooms	Ventilation is to be provided by natural or mechanical means in accordance with this provision and Clause F4.6. The building has adequate openings to achieve compliance with natural ventilation.	New works capable of complying
F4.8	Restriction on the position of water closets and urinals	A room containing a closet pan or urinal must not open directly into a room used for public assembly or a workplace normally occupied by more than one person.	New works capable of complying
F4.9	Airlocks	If the room containing a closet pan or urinal must not open directly into rooms identified in F4.8 above then an airlock of not less than 1.1 m ² and fitted with self-closing doors at all access doorways or the room containing the closet pan or urinal must be provided with mechanical ventilation and the doorway to the room adequately screened from view. Mechanical ventilation of the bathrooms is to be provided.	New works capable of complying
F4.11	Car park exhaust	Not applicable	N/A
F4.12	Kitchen local exhaust	If the cooking appliance in the kitchen has a total maximum electrical power input exceeding 8kW of a total gas power input exceeding 29MJ/h a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 must be provided.	Capable of complying

4.7. Ancillary Provisions (BCA Section G)

BCA Clause	Title	Assessment and comment	Status
NSW G1.101	Provision for the cleaning of windows	The method of provision for the cleaning of windows is required to be in accordance with this clause (windows 3 or more storeys above the ground).	Capable of complying
G2.2	Installation of appliances	Domestic solid-fuel burning appliances are not proposed.	N/A
G2.3	Open fire places	Existing open fire places are not in use.	N/A
G2.4	Incinerator rooms	Not applicable	N/A
G3.1	Atriums affected by this part	Not applicable	N/A

4.8. Special Use Buildings (BCA Section H)

4.8.1. Class 9b Buildings (Part H1)

BCA Clause	Title	Assessment and Comment	Status
NSW H101.1	Application	These provisions apply to Hall and associated lobby areas as these areas are considered to be an entertainment venue under the Environmental Planning and Assessment Regulation 2000.	Note
NSW H101.3	Fire separation	The stage, backstage area and auditorium are to be separated from the remainder of the building with construction with a FRL of at least 60/60/60. The fire separation of the auditorium and bounding walkway is subject to a performance solution prepared by AE & D.	Complies with relevant performance requirements
NSW H101.5	Foyer space	Foyer space (excluding stairways and concession areas) is to be provided on the basis of at least 0.25m ² per person.	Complies

BCA Clause	Title	Assessment and Comment	Status
NSW H101.5	Conventional stages	The stage is considered to be a conventional stage for the purposes of the BCA as it is separated from the auditorium by a proscenium wall incorporating a proscenium opening.	Note
NSW H101.5.1	Extent of stage area	Stages must have at least 2 means of egress from the backstage area. Backstage means a space associated with, and adjacent to, a stage in a Class 9b building for scenery, props, equipment, dressing rooms or the like.	Complies
NSW H101.5.3	Large stages	A stage which is more than 150m ² in floor area - i. must have a sprinkler system installed directly above the stage: and ii. must have the proscenium opening protected by a safety curtain that complies with NSW H101.10. A sprinkler system is provided as required. The safety curtain is subject to a performance solution prepared by AE & D.	Complies
NSW H101.5.4	Fire separation of stage	A stage which is more than 50m ² in area, and all areas below the stage, must (with the exception of a proscenium opening, be separated from the backstage and the remainder of the building with construction having a FRL of not less than 60/60/60. The separation of the stage and backstage area is subject to a performance solution prepared by AE & D. Timber elements penetrating the proscenium wall are also subject to a performance solution prepared by AE & D.	Complies
NSW H101.7	Flying scenery	Where there is a grid or other means of flying scenery over the stage: i. The stage must be provided with a sprinkler system in accordance with E1.5; and ii. A fly gallery, bridge grid, rigging loft, tie gallery or electric light perch must comply with AS 1687 and be of non-combustible construction. iii. A fly gallery must be provided with at least 2 means of egress, 1 from each side of the stage;	Complies

BCA Clause	Title	Assessment and Comment	Status
		<p>iv. A grid or rigging loft must be provided with at least 2 means of egress;</p> <p>v. if exposed steel is used to construct the roof, fly or tie gallery they must be designed so that, in the event of failure due to fire, the wall structure of the building will not be affected.</p> <p>vi. Structural steel supporting the stage tower must be enclosed by masonry or concrete with a FRL of not less than 120/120/120.</p> <p>vii. The proscenium wall must have a FRL of not less than 120/120/120 and have a rigid safety curtain to protect the proscenium opening in accordance with NSW H101.10</p> <p>The safety curtain is subject to a performance solution prepared by AE & D.</p>	
NSW H101.8	Load notice	A load notice is required at the stage in accordance with this clause.	Complies
NSW H101.10	Safety curtains	The safety curtain is subject to a performance solution prepared by AE & D.	Complies with relevant performance requirements
NSW H101.11	Seating in rows	<p>These requirements do not apply to continental seating or seating at tables.</p> <p>Continental seating means rows of seating in which the rows extend the full width of an auditorium without intervening aisles.</p>	Note
NSW H101.11.1	Number of seats	<p>Where seating is arranged in rows, the maximum number of seats in a row must not exceed –</p> <p>i. 8 where there is an aisle at one end of the row only; or</p> <p>ii. 16 where there are aisles at both ends of the row.</p>	Complies
NSW H101.11.2	Chairs used for seating	<p>Chairs used for seating must;</p> <p>i. Where they have arms, be at least 500mm from centre to centre;</p>	Complies

BCA Clause	Title	Assessment and Comment	Status
		ii. Where they do not have arms, be at least 450 from centre to centre iii. Have a minimum lateral clearance of at least 300mm from the front of each chair and the chair in front or any guardrail in front; and iv. Have a distance of not less than 950mm from the back of each chair and the chair in front.	
H101.11.3	Chairs in auditoriums – Level floors	Chairs in an auditorium with a level floor must be securely fastened to the floor or secured together in groups of not less than 4 or more than 16.	Complies
NSW H101.11.4	Chairs in auditoriums – Sloping floors	Chairs in an auditorium having a sloping floor, or having stepped or inclined platforms, must be securely fastened to the floor or platform.	Complies
NSW H101.11.5	Chairs in radiating aisles	Where seating is securely fastened to the floor and arranged in concentric circles, semi circles or segments of circles with radiating aisles, the number of seats in each row between two aisles must not exceed 24 and each seat must have: <ul style="list-style-type: none"> i. A minimum lateral clearance of at least 350mm between the front of the seat and the back of the seat in front; and ii. A distance of at least 975mm from the back of the seat to the back of the seat in front. iii. The rows of seats may be curved or straight. 	Capable of complying
NSW H101.11.6	Aisles and crossovers.	Where provided, aisles must have a width of at least 1m and crossover a width of at least 1.5m; and, <ul style="list-style-type: none"> i. The floor of each aisle must not have a grade in excess of 1 in 8 ii. If there is a step from a row to an aisle or a landing to an aisle, the step must not project into the aisle. 	Complies
NSW H101.11.7	Platforms and steps	Where an <i>aisle</i> contains platforms or steps— <ul style="list-style-type: none"> (a) the platforms and steps must extend for the full width of the <i>aisle</i>; 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 	Complies

BCA Clause	Title	Assessment and Comment	Status
		<p>(c) if there are one or more intervening steps between levels of platforms—</p> <p>(i) each riser must be at least 100 mm but not more than 200 mm high; and</p> <p>(ii) each going must be at least 250 mm deep; and</p> <p>(iii) risers and goings must be uniform; and</p> <p>(d) goings which are more than 450 mm deep at platform level must not have a grade of more than 1 in 50; and</p> <p>(e) at the entrance from the <i>aisle</i> to each <i>row</i> there must be a clear level floor space, extending the full width of the <i>aisle</i>, of at least 300 mm, measured from the back of the <i>row</i> in front; and</p> <p>(f) any going projecting in front of a seat adjacent to an <i>aisle</i> must be protected by a guardrail.</p>	
NSW H101.13.1	Provision for guardrails	<p>Guardrails must be provided—</p> <p>(a) along the fascia of each balcony or box;</p> <p>(b) if there is a stepped floor, along the front edge of each cross-over.</p> <p>(c) where H101.13.2 & H101.13.3 apply.</p>	Complies
NSW H101.13.2	Fixed back seats	<p>If seats with fixed backs are provided, guardrails that extend for the full width of the seating, must be provided at least 500 mm above the platform unless—</p> <p>(a) fixed seat backs of the next lower level project at least 500 mm above the level of the stepped platform; and</p> <p>(b) there is only one riser between the platform and the next lower <i>cross-over</i>.</p>	Complies
NSW H101.13.3	Steps between platforms	<p>If—</p> <p>(a) there is more than one intervening step in an <i>aisle</i> between levels of platforms, a guardrail must be provided (at a vertical height of at least 660 mm measured above the nosing of each tread and of the upper platform) to the sides of the <i>aisle</i> adjacent to those steps; and</p> <p>(b) there is more than one intervening step in an <i>aisle</i> between levels of platforms, and that <i>aisle</i> is</p>	Complies

BCA Clause	Title	Assessment and Comment	Status
		<p>along a wall, a continuous guardrail must be affixed to that wall at a height of at least 865 mm above the nosing of each tread; and</p> <p>(c) the end of a platform or the back of the highest platform does not abut a wall that extends at least 660 mm above the floor level of the platform, a guard rail not less than 660 mm high must be provided—</p> <p>(i) at the ends of the platform, extending from the front of the first riser to the back of the highest platform; and</p> <p>(ii) at the back of the highest platform, extending the full width of the platform; and</p> <p>(d) there is an inclined floor, the raised section of which is not bounded by walls at least 660 mm high, a guard rail must be provided that extends around the perimeter of the raised section at a height of at least 660 mm above the inclined floor level; and</p> <p>(e) seating at tables is provided on a stepped platform, a guardrail at least 500 mm high must be provided along the front edge of the platform</p>	
NSW H101.14.3	Cross-overs	<p>A guardrail provided along the front edge of a cross-over on a stepped floor—</p> <p>(a) must be at least 750 mm high; and</p> <p>(b) must extend for the full distance between <i>aisles</i>, or between a wall and an <i>aisle</i>, or for such other distance as considered necessary</p>	Complies
NSW H101.15	Dressing rooms	<p>A dressing room or 2 or more adjoining dressing rooms, having a total <i>floor area</i> of more than 50 m², must—</p> <p>(a) be separated from other parts of the building by construction having an FRL of not less than 60/60/60;</p> <p>(b) have at least 2 means of egress as remote from each other as possible, one of which must discharge—</p> <p>(i) directly to a road or <i>open space</i>; or</p>	Complies

BCA Clause	Title	Assessment and Comment	Status
		(ii) through a fire-isolated <i>exit</i> to a road or <i>open space</i> . The fire separation of the dressing rooms is subject to a performance solution prepared by AE & D.	
NSW H101.16	Storerooms	The store room behind the stage and chair store are subject to a performance solution prepared by AE & D.	Complies with relevant performance requirements
NSW H101.17	Projection suites	Not applicable	N/A
NSW H101.19	Electrical mains installations	The construction and location of the switchboard containing the main isolation switch is to be in accordance with this clause. Circuit protection and sub mains are to be provided in accordance with this clause.	TBC Prior to issue of the construction certificate
NSW H101.20	Lighting	Lighting switches, lighting levels and alternative power supply are to be provided to comply with this clause.	TBC Prior to issue of the construction certificate
NSW H101.24	Fuel gas Cylinders	Not applicable	N/A

4.9. Energy Efficiency (BCA Section J – Class 3 and 5 to 9 Buildings)

The assessment is based on buildings located within Climate Zone 6.

4.9.1. External Fabric (Part J1)

BCA Clause	Title	Assessment and Comment	Status
J1.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope	Note

BCA Clause	Title	Assessment and Comment	Status
		of a Class 3 and 5 to 9 building in accordance with this clause.	
J1.2	Thermal Construction - General	Required insulation, reflective insulation and bulk insulation is to be installed in accordance with this clause and AS/NZS 4859.1.	New works capable of complying
J1.3	Roof and Ceiling Construction	<p>A roof or ceiling that is part of the envelope must achieve the Total R-Value specified in Table J1.3a for the direction of heat flow.</p> <p>Climate Zone 6 requires a minimum total R-Value of 3.2 measured downwards.</p> <p>A roof that:</p> <ul style="list-style-type: none"> ▪ is required to achieve a minimum Total R-Value; and ▪ has metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and ▪ does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens (see Specification J1.3 Figure 2(c) and (f)), <p>must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the metal sheet roofing and its supporting member.</p> <p>Detail of the roof construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.</p>	New works capable of complying
J1.4	Roof Lights	Not applicable	N/A
J1.5	Walls	<p>Each part of an external wall that is part of the envelope must satisfy one of the options in Table J1.5a.</p> <p>Any internal wall forming part of the envelope must achieve the total R-value in Table J1.5b.</p> <p>A wall that:</p> <ul style="list-style-type: none"> ▪ is required to achieve a minimum Total R-Value; and 	New works capable of complying

BCA Clause	Title	Assessment and Comment	Status
		<ul style="list-style-type: none"> ▪ has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame; and ▪ does not have a wall lining or has a wall lining that is fixed directly to the metal frame, <p>must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the external cladding and the metal frame.</p> <p>Detail of the wall construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.</p>	
J1.6	Floors	<p>A floor that is part of the envelope of the building, including a floor above or below a car park or a plant room:</p> <ul style="list-style-type: none"> ▪ must achieve the Total R-Value specified in Table J1.6; and ▪ with an in-slab heating or cooling system, must be insulated around the vertical edge of its perimeter with insulation having an R-Value of not less than 1.0. <p>The minimum Total R-Value required in (i) may be reduced by R0.5 provided R0.75 is added to the Total R-Value required for the roof and ceiling construction.</p> <p>Some concrete slab on ground require insulation installed around the vertical edge of its perimeter as specified in this clause</p>	New works capable of complying

4.9.2. External Glazing (Part J2)

BCA Clause	Title	Assessment and Comment	Status
J2.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 3 & 5 to 9 building in accordance with this clause.	Note

BCA Clause	Title	Assessment and Comment	Status
J2.4	Glazing	Glazing must be designed in accordance with J2.4 to achieve the aggregate air-conditioning energy value. A glazing calculator results are to be provided with the construction documentation to demonstrate compliance	New works capable of complying
J2.5	Shading	Required shading must be designed in accordance with the requirements of this condition. The construction documentation is to identify id shading is required and details to demonstrate compliance.	New works capable of complying

4.9.3. Building Sealing (Part J3)

BCA Clause	Status	Assessment and Comment	Status
J3.1	Application of part	The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 3 & 5 to 9 building in accordance with this clause.	Note
J3.2	Chimneys and flues	Not applicable	New works capable of complying
J3.3	Roof Light	Not applicable	New works capable of complying
J3.4	Windows and doors	Windows and doors forming part of the envelope are required to be sealed to restrict air infiltration. The requirements of this provision do not apply to: <ul style="list-style-type: none"> ▪ Windows complying with AS2047, ▪ A fire or smoke door, ▪ Roller shutter doors. The bottom edge of a swing door required to be sealed must have a draft protection device and	New works capable of complying

BCA Clause	Status	Assessment and Comment	Status
		<p>the other edges of doors or windows must have a foam or rubber compression strip, fibrous seal or the like.</p> <p>An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like, other than where the conditioned space has a floor area of not more than 50 m².</p> <p>The construction documents are to have details demonstrating compliance.</p>	
J3.5	Exhaust Fans	<p>A miscellaneous exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a:</p> <ul style="list-style-type: none"> ▪ conditioned space; or ▪ a habitable room in climate zone 4, 6, 7 & 8. 	New works capable of complying
J3.6	Construction of roofs, walls and floors	Roofs, ceilings, walls, floors and any openings are required to be designed and constructed to minimise air leakage in accordance with this clause.	New works capable of complying
J3.7	Evaporative Coolers	Evaporative coolers are not proposed.	N/A

4.9.4. Air Conditioning and Ventilation Systems (Part J5)

BCA Clause	Status	Assessment and Comment	Status
J5.2	Air Conditioning System	<p>Any proposed air-conditioning systems and mechanical ventilation systems must:</p> <ul style="list-style-type: none"> ▪ Be capable of being deactivated when the SOU or part of the building served is not occupied; and ▪ When the air flow rate is greater than 1000 L/s, be designed so that the total fan power of the fans in the system is in accordance with Table J5.2, except as permitted. 	New works capable of complying

BCA Clause	Status	Assessment and Comment	Status
J5.3	Time Switch	The mechanical ventilation system and air conditions system design is required to be provided with a time switch in accordance with Spec J6. The requirement does not apply to an air-conditioning system that serves only one SOU.	New works capable of complying
J5.4	Heating and chilling systems	<p>Heating a space other than via water, must be:</p> <ul style="list-style-type: none"> ▪ A solar heater; or ▪ A gas heater; or ▪ An oil heater if reticulated gas is not available at the allotment boundary; and ▪ A heat pump heater; or ▪ A heater using reclaimed heat from another process such as reject heat from refrigeration plant; or ▪ A combination of 2 or more. <p>Package air-conditioning equipment with a capacity of not less than 65 kW_r, including a split unit and a heat pump, must have an energy efficiency ratio complying with Table J5.4c when tested in accordance with AS/NZS 3823.1.2 at test condition T1.</p>	New works capable of complying
J5.4	Miscellaneous exhaust system	<p>A miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand such as a stove in a commercial kitchen or a chemical bath in a factory is required to be designed to comply with this clause.</p> <p>The construction documents are to have details demonstrating compliance.</p>	New works capable of complying

4.9.5. Artificial Lighting and Power (Part J6)

BCA Clause	Status	Assessment and Comment	Status
J6.2	Artificial lighting	Artificial lighting is to be designed in accordance with this provision.	Note

BCA Clause	Status	Assessment and Comment	Status
J6.3	Interior artificial lighting and power control	Artificial lighting and power control are to be designed and provided in accordance with this provision.	New works capable of complying
J6.4	Interior decorative and display lighting	Interior decorative and display lighting, such as for foyer mural or art display, must be controlled in accordance with this clause.	New works capable of complying
J6.5	Artificial lighting around the perimeter of a building	Artificial lighting around the perimeter of a building must be designed to comply with this clause.	New works capable of complying
J6.6	Boiling water and chilled water storage units	Power supply to a boiling water or chilled water storage unit is required to be controlled by a time switch in accordance with Spec J6.	New works capable of complying

4.9.6. Heated Water Supply and Swimming Pool and Spa Pool Plant (Part J7)

BCA Clause	Status	Assessment and Comment	Status
J7.2	Hot Water Supply	A hot water supply system for food preparation and sanitary purposes, other than a solar hot water supply system in climate zones 1, 2 and 3, must be designed and installed in accordance with Section 8 of AS/NZS 3500.4.	New works capable of complying
J7.3	Swimming pool heating and pumping	Not applicable	N/A
J7.4	Spa pool heating and pumping	Not applicable	N/A

4.9.7. Facilities for Energy Monitoring (Part J8)

BCA Clause	Status	Assessment and Comment	Status
J8.3	Facilities for energy monitoring	1. A building or sole-occupancy unit with a floor area of more than 500m ² must have the facility to record the consumption of gas and electricity.	New works capable of complying

BCA Clause	Status	Assessment and Comment	Status
		2. A building with a floor area of more than 2,500m ² must have the facility to record individually the energy consumption of: <ul style="list-style-type: none"> (a) air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and (b) artificial lighting; and (c) appliance power; and (d) central hot water supply; and (e) internal transport devices including lifts, escalators and travelators where there is more than one serving the building; and (f) other ancillary plant. 3. The provisions of (b) do not apply to a Class 2 building with a floor area of more than 2,500m ² where the total area of the common areas is less than 500m ² .	

5. FIRE SAFETY SCHEDULE

The following table is a list of the required fire safety measures for this development. This list is to be treated as a guide as to what the buildings are considered to require.

No	Fire Safety Measures (as set out under Clause 166 of EP&A Regulations)	Standard of Performance
1.	Automatic fail safe devices	BCA 2016 Clause D2.21 (b)(iv) auto unlock of doors
2.	Automatic fire detection and alarm system	BCA 2016 E2.2, Spec E2.2a Clause 4 (smoke detection system) & AS 1670.1-2015 or AS 3786-2014 ^{Amdt 1} Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.
3.	Automatic fire suppression system (over stage, back stage and under stage)	BCA 2016 E1.5, Spec E1.5 & AS 2118.1-1999 ^{Amdt 1} and Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.

No	Fire Safety Measures (as set out under Clause 166 of EP&A Regulations)	Standard of Performance
4.	Building occupant warning system	BCA 2016 Spec E2.2a (Clause 6) & AS1670.1-2015 (Clause 3.22)
5.	Emergency lighting	BCA 2016 Clause E4.2, E4.3, E4.4 & AS 2293.1 – 2005 Amdt 1 & 2
6.	Exit signs	BCA 2016 E4.5, E4.6, E4.8 Spec E4.8 & AS 2293.1-2005 Amdt 1 & 2
7.	Fire blankets	AS 2444-2001
8.	Fire dampers	BCA 2016 C3.12, C3.15 & AS/NZS 1668.1-2015, AS 1668.2-2012 Amdt 1, AS 1682.1-2015, AS 1682.2-2015
9.	Fire doors	BCA 2016 C2.12 (separation of equipment); C2.13 (electricity supply systems); C3.4, Spec C3.4; C3.5 (doorways & fire walls) & AS 1905.1 – 2015
10.	Fire rated lift landing doors	BCA 2016 C3.10 & AS 1735.11-1986
11.	Fire hose reel systems	BCA 2016 E1.4 & AS 2441-2005 Amdt 1
12.	Fire hydrant systems	BCA 2016 E1.3 & AS 2419.1-2005 Amdt 1
13.	Fire seals protecting openings in fire resisting components of the building	BCA 2016 C3.12, C3.15 & Spec C3.15, AS 4072.1-2005 Amdt 1, AS 1530.4.-2014
14.	Fire shutters	BCA 2016 C3.4, C3.5 & Spec C3.4
15.	Lightweight construction	BCA 2016 C1.8 & Spec C1.8
16.	Mechanical air handling system	BCA 2016 E2.2, Table E2.2(a); NSW E2.2(b), Spec E2.2(a) & AS/NZS 1668.1-2015 Class 9b (automatic shutdown) NSW Table E2.2(a)
17.	Portable fire extinguishers	BCA 2016 E1.6 & AS 2444-2001
18.	Safety curtain in proscenium opening	NSW H101.10 and Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.

No	Fire Safety Measures (as set out under Clause 166 of EP&A Regulations)	Standard of Performance
19.	Smoke detectors & heat detectors (for operation of automatic fire doors or shutters)	BCA 2016 E2.2, Spec E2.2a & AS 1670.1-2015, C3.5 for automatic fire doors in fire walls.
20.	Smoke exhaust (over stage)	BCA 2016 E2.2, Spec E2.2b & AS/NZS 1668.1-2015, Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.
21.	Warning and operational signs	E3.3 (lifts), H101.10(i),(j) & (k), H101.8 stage load notice, “Safety curtain to be open when not in use.” Fire Engineering Report – Auditorium Grant Works, prepared by AE & D Fire Pty Ltd, Report No F1589 FER, Revision 3, dated 25.05.18.

6. CONCLUSION

The design as proposed is capable of complying with the Building Code of Australia and will be subject to construction documentation that will provide appropriate details to demonstrate compliance. This report has identified areas of non-compliance with the deemed-to-satisfy provisions and indicates the design intent to demonstrate compliance with the Performance Requirements of the BCA. Whilst the performance-based solutions are to be design developed, it is my view that the solutions will not impact on the current design.

ATTACHMENT 1

Assessed plans prepared by BVN Architects

Plan Title	Drawing No	Revision	Date
BASEMENT	AR-B-XX-05	A	08.03.19
GROUND FLOOR	AR-B-XX-00	A	08.03.19
LEVEL 1	AR-B-XX-01	A	08.03.19
LEVEL 2	AR-B-XX-02	A	08.03.19
FLOOR PLAN ROOF	AR-B-XX-04	A	08.03.19
NORTH & SOUTH ELEVATION	AR-C-XX-00	A	08.03.19
EAST & WEST ELEVATION	AR-C-XX-01	A	08.03.19
CROSS SECTIONS	AR-D-XX-01	A	08.03.19
LONG SECTIONS	AR-D-XX-04	A	08.03.19