



Project Address: 263 – 275 High Street, Maitland New Administration Building

Client: Maitland City Council Report Number: 183885

Revision: 04



REPORT REVISION HISTORY

Revision	Date Issued	Revision Description	
01	29.01.19	Draft	
		Prepared by	Verified by
		Scott Reid	Name Surname
		Senior Building Regulations Consultant	Position title
02	27.03.19 Review of revised plans and assessment under BCA 2019		ınder BCA 2019
		Prepared by	Verified by
		Scott Reid	Name Surname
		Senior Building Regulations Consultant	Position title
03	01.04.19	Minor editorial changes	
		Prepared by	Verified by
		Scott Reid	Name Surname
		Senior Building Regulations Consultant	Position title
		Changes regarding protection of openings	in external walls and rooflights
04	05.04.19	Prepared by	Verified by
		Scott Reid	Name Surname
		Senior Building Regulations Consultant	Position title

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.

Copyright © City Plan Services P/L ABN 30 075 223 353

All Rights Reserved. No material may be reproduced without prior permission. While we have tried to ensure the accuracy of the information in this publication, City Plan Services P/L accepts no responsibility or liability for any errors, omissions or resultant consequences including any loss or damage arising from reliance in information in this publication.

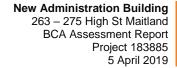




TABLE OF CONTENTS

1.	Exec	utive Summary3			
2.	Intro	duction			
	2.1.	Genera	al	5	
	2.2.	Purpos	se of Report	5	
	2.3.	Report	t Basis	5	
	2.4.	Exclus	sions and Limitations	6	
3.	Build	ing Cod	de of Australia DESCRIPTION		
	3.1.	Classif	fication (A3.2)	7	
	3.2.	Effectiv	ve Height (A1.1)	7	
	3.3.	Rise in	Storeys (C1.2)	7	
	3.4.	Туре с	of Construction (C1.1)	7	
4.	Build	ing Cod	de of Australia Assessment	8	
	4.1.	Structu	ure (BCA Section B)	8	
	4.2.	Fire Re	esistance (BCA Section C)	8	
	4.3.	Fire-R	esisting Construction (Specification C1.1)	16	
	4.4.	Access	s and Egress (BCA Section D)	18	
	4.5.	Service	es and Equipment (BCA Section E)	25	
	4.6.	Health	and Amenity (BCA Section F)	28	
	4.7.	Ancilla	ry Provisions (BCA Section G)	31	
	4.8.	Energy	y Efficiency (BCA Section J – Class 3 and 5 to 9 Buildings)	31	
		4.8.1.	External Fabric (Part J1)	31	
		4.8.2.	External Glazing (Part J2)	33	
		4.8.3.	Building Sealing (Part J3)	34	
		4.8.4.	Air Conditioning and Ventilation Systems (Part J5)	35	
		4.8.5.	Artificial Lighting and Power (Part J6)	36	
		4.8.6.	Facilities for Energy Monitoring (Part J8)	37	
5.	Fire S	Safety S	Schedule	38	
6.	Conc	lusion.		40	
Att	achme	nt 1		4	



1. EXECUTIVE SUMMARY

The development, the subject of this report, is for the construction of a new Administration Building for Maitland City Council located at 263 – 275 High Street, Maitland. The proposed new building will connect to the existing Maitland 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 building will be constructed to comply with requirements for Type A construction. The Maitland Town Hall, which will undergo alterations and additions, is required to be of Type B construction.

This report relates to the new Administration Building only and has been prepared on behalf of Maitland City Council to establish compliance to the Building Code of Australia and relevant Acts and Regulations of the planning development application documentation for the proposed works. The Maitland Town Hall is subject the subject of a separate report.

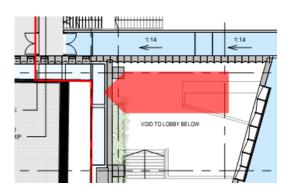
The following non-compliance's with the deemed-to-satisfy provisions of the BCA have been identified and are proposed to be dealt by justification against the performance requirements of the BCA in accordance with BCA Clause A0.5 (b).

Exit travel distances (D1.4)

The distance to a point of choice may exceed 20m once fitout is taken into consideration. Extended distance to a point of choice of up to 30m may be performance justified.

Rooflights (Spec C1.1, clause 3.6)

Rooflights located within 3m of the Town Hall Building will require a performance solution.



Other matters to be noted:

Fire resisting construction (Spec C1.1)

Fire resistance levels on basement level including floor slab above are to have a FRL of 240/240/240. Reduced FRL may be possible based on provision of sprinklers throughout.



Separation by fire walls (C2.7)

Separation of lift shafts (C2.10)

Protection of openings in external walls (C3.2)

The location of the fire wall separating the proposed new building and existing building on each level to be clarified

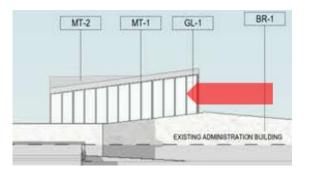
Two of the lift shafts connect four storeys and are required to be separated from the rest of the building with walls achieving an FRL of 240/240/240 on Level B1 and 120/120/120 on the upper levels. The remaining lift connect only two storeys and is not required to be within a fire resistant shaft.

Openings in the southern elevation of the new building are within 6m of the existing building on Basement Level, Ground Floor and Level 1. These openings are to be protected.



Basement Level

Openings in the western elevation of the building exposed to the Town Hall Building will require protection.



A fire engineered solution may negate the need for these openings to be protected.



2. INTRODUCTION

2.1. General

The development, the subject of this report, is for the construction of a new city administration building for Maitland City Council located at 263 - 275 High Street, Maitland. The proposed new building will connect to the existing building 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 building will be constructed to comply with requirements for Type A construction and the Maitland Town Hall, which will undergo alterations and additions, is required to be of Type B construction.



BVN Architects

2.2. Purpose of Report

This report relates to the new Administration Building only and has been prepared on behalf of Maitland City Council to establish compliance to the Building Code of Australia and relevant Acts and Regulations of the planning development application documentation for the proposed works. The Maitland Town Hall is the subject of a separate report.

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 only), inclusive of NSW variations (See Note 1).
- (c) Environmental Planning and Assessment Act 1979.
- (d) Environmental Planning and Assessment Regulation 2000.

Note1: Building Code of Australia (BCA) 2019 will be adopted in NSW on 1 May 2019. The Australian Building Codes Board has issued a preview of BCA 2019 which is subject to change when this version is adopted. 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.
- Part D3 of the BCA Access for People with a Disability.
- 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 Class 7b - Storage

Ground Floor Class 5 - Office

Level 1 Class 5 - Office

Level 2 Class 5 - Office

3.2. Effective Height (A1.1)

The proposed building will have an effective height of less than 12m (10.6m).

3.3. Rise in Storeys (C1.2)

The proposed building will consist of a rise in storeys of four (4).

3.4. Type of Construction (C1.1)

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



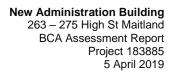
4. BUILDING CODE OF AUSTRALIA ASSESSMENT

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.	Capable of complying
B1.2	Determination of individual actions	A structural engineer is to provide design certification at the Construction Certificate stage that the building has been designed to the relevant structural standards.	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 that the building has been designed to the relevant structural standards.	Capable of complying
B1.5	Structural Software	Not applicable	N/A
B1.6	Construction of buildings in flood hazard areas	Not applicable. Only applies to Class 2, 3 or 9a Health Care Buildings	N/A

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 A construction. Type A construction is the highest of the fire resistant of the types of construction. The minimum FRL's are to be achieved.	Note
C1.2	Calculation in rise in storeys	The building contains a RIS of four.	Note





BCA Clause	Title	Assessment and Comment	Status
C1.8	Lightweight construction	Any proposed lightweight construction is to comply with Specification C1.8.	Capable of complying
C1.9	Non-combustible building elements	 In a building required to be Type A construction, the following building elements and their components must be noncombustible: (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 where they are required to be fire-resisting.	Capable of complying

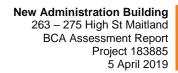




BCA Clause	Title	Assessment and Comment	Status
		 (f) Sarking-type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5 (g) Bonded lamination materials where – (i) Each lamina, including any core, is non-combustible; and (ii) Each adhesive layer does not exceed 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.	Capable of complying
C1.11	Performance of external wall in fire	Not applicable	N/A
C1.13	Fire protected timber:	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 noncombustible 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 2m² in area associated with a building service. 5. An electrical switch, socket-outlet, cover plate or the like. 	Capable of complying



BCA Clause	Title	Assessment and Comment	Status
		 A light fitting. A required sign. 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. 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 –	
C2.2	General floor area and volume limitations	The following maximum fire compartmentation floor area and volume limitations apply to the Class 5 fire compartments: Floor area – 8,000 m² Volume – 48,000 m² The following maximum fire compartmentation floor area and volume limitations apply to the Class 7 fire compartments: Floor area – 5,000 m²	Capable of complying



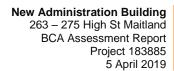


BCA Clause	Title	Assessment and Comment	Status
		Volume – 30,000 m²	
		The building complies with the general floor area and volume limitations identified by this clause.	
C2.3	Large Isolated buildings	Not applicable	N/A
C2.4	Open space and vehicular access	Not applicable	N/A
NSW C2.5	Class 9a and 9C buildings	Not applicable	N/A
C2.6	Vertical separation of openings in external walls	The building is to be protected with sprinklers throughout and spandrel separation is not required.	N/A
C2.7	Separation by fire walls	A fire wall is required between the new building and the existing building The fire wall is required to achieve an FRL of 240/240/240 on basement level and 120/120/120 on Ground Floor and upper levels.	Capable of complying
C2.8	Separation of classifications in the same storey	The building does not have parts of different classifications located alongside one another in the same storey.	N/A
C2.9	Separation of classifications in different stories	The building does not have parts of different classifications located above different classifications.	N/A
C2.10	Separation of lift shafts	Two of the lift shafts connect four storeys and are required to be separated from the rest of the building with walls achieving an FRL of 240/240/240 on Level B1 and 120/120/120 on the upper levels. The remaining lift connect only two storeys and is not required to be within a fire resistant shaft.	Capable of complying
C2.11	Stairways and lifts in one shaft	The stairs and lift shaft are located in different shafts.	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
C2.12	Separation of equipment	The following rooms are required to be fire separated from the remainder of the building by 120/120/120 FRL construction: Lift motor rooms and lift control panels. Emergency Generators. Central smoke control plant. Hydrant pumps. Boilers. Battery rooms.	Capable of complying
C2.13	Electricity supply system	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. 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. 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. Electrical conductors and switchboards are required to comply with this clause.	Capable of complying
C2.14	Public corridors in Class 2 & 3 buildings	Not applicable	N/A
C3.2	Protection of openings in external walls	Openings are located more than 3m from the allotment boundary. Openings in the southern elevation of the new building are within 6m of the existing building on Basement Level, Ground Floor and Level1. These	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
		openings are to be protected. A fire engineered solution may negate the need for these openings to be protected.	
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	 Windows requiring protection must be protected by one of the means: 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. Fire doors, fire windows and fire shutters are required to comply with Specification C3.4. Alternatively, protection of openings could be justified against the performance provisions of the BCA, via a fire engineered alternative solution. 	Note





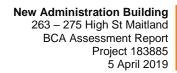
BCA Clause	Title	Assessment and Comment	Status
C3.5	Doorways in fire walls	Doorways in the fire wall separating the new and existing buildings are to be protected with automatic closing, -/120/30 fire doors or fire shutters. The automatic operation of the doors is to be interfaced with the smoke detection and alarm system and the sprinkler system.	Capable of complying
C3.6	Sliding fire doors	Not applicable	N/A
C3.7	Protection of doorways in horizontal exits	The building does not contain horizontal exits and the provisions of this part do not apply.	N/A
C3.8	Openings in fire isolated exits	The fire-isolated exits are required to be protected by -/60/30 self-closing fire doors.	Capable of complying
C3.9	Service penetrations in fire isolated exits	Service are not to penetrate through fire isolated exits unless permitted by this clause.	Capable of complying
C3.10	Fire isolated lift shafts	The lift doors of the lifts which connects four storeys are required to be -/60/- fire doors and comply with this provision. A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35 000 mm² in area.	Capable of complying
NSW C3.11	Bounding construction	Not applicable	N/A
C3.12	Openings in floors and ceilings for services.	Fire separation between floors is required to be maintained where services penetrate though floors unless the services are located in fire rated shafts.	Capable of complying
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.	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.	Capable of complying
C3.17	Columns protected with lightweight construction to achieve an FRL	Not applicable Details are to be provided with the construction documentation.	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.	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.	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.	Concession can be applied
2.6	Mezzanine floors: concession	The building does not contain mezzanine's that are subject to this provision.	N/A
2.7	Enclosure of shafts	Fire rated shafts are to be enclosed at the top and bottom in accordance with the requirements of this clause.	Capable of complying





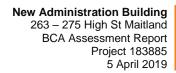
BCA Clause	Title	Assessment and Comment	Status
2.9	Residential Age Care building: Concession	Not applicable	N/A
3.1	Fire resistance of building elements	Generally building elements are required to achieve the following FRL's; Storage 4 hrs Office: 2 hrs In addition, the following requirements apply: 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.	Capable of complying
3.5	Roof: Concession	The roof is not required to achieve an FRL as the building has a sprinkler system complying with Specification E1.5 installed throughout.	Concession can be applied
3.6	Roof lights	a. have an aggregate area of not more than 20% of the roof area; and b. be not less than 3m from- i. any boundary of the allotment other than the boundary with a road or public place; and ii. any part of the building which projects above the roof unless the part has a FRL of 120/120/120 and any openings protected.	Performance solution



BCA Clause	Title	Assessment and Comment	Status
		Rooflights are located less than 3m from the existing Town Hall Building and will require a performance solution.	
		Constriction above the roof lights is required to comply with b. ii above.	
3.7	Internal wall and column concession	Internal columns, internal walls (other than fire walls and shaft wall) immediately below the roof are permitted to achieve an FRL of 60/60/60. This concession does not apply to internal columns within 1.5m from the external windows.	Concession can be applied
3.9	Carpark	Not applicable	N/A

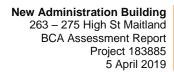
4.4. Access and Egress (BCA Section D)

BCA Clause	Title	Assessment and Comment	Status
D1.2	Number of exits required	Ground Level to Level 2 are required to be provided with a minimum of one exit. The basement is required to have access to at least two exits	Capable of complying
D1.3	When fire isolated exits are required	The two fire stairs located on the southern side of the building connect 4 storeys and are required to be fire isolated.	Capable of complying
D1.4	Exit travel distances	Class 5 and 7a 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.	Performance solution
		The distance to a point of choice may exceed 20m on office levels once fitout is taken into consideration. Extended distance to a point of choice of up to 30m may be performance justified.	
D1.5	Distance between alternative exits	Exits that are required to serve as alternative means of egress must not be more than 60m apart.	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
		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.	
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.	Capable of complying
D1.7	Travel via fire isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from:	Capable of complying
		 a public corridor, public lobby or the like; or a sole-occupancy unit occupying all of a storey; or 	
		a sanitary compartment, airlock or the like.	
		Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway to a road or open space;	
		Where a path of travel from the point of discharge of a fire-isolated exit necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have an FRL of not less than 60/60/60 and any openings protected internally in accordance with 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.	
D1.8	External Stairs or ramps in lieu of Fire-isolated exits	External stairs are not provided in lieu of fire isolated exits.	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.	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
		In a Class 5 building, the distance from any point on the floor to a point of egress to a road or open space must not exceed 80m.	
D1.10	Discharge from exits	The discharge point of the fire isolated exits is required to be connected to the road by a minimum 1 m wide path and where there is a change of level, the path must contain a complying stair or ramp.	Capable of complying
		The BCA also specifies that 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.	
		Suitable bollards would be required adjacent to the doorways of fire-stairs within the basement carpark, where directly adjacent or exposed to the carpark.	
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 100m² or plant or lift machine rooms with a floor area of less than 200 m², for all but one point of egress.	Note
		Ladders are required to comply with AS1657 and the requirement of this clause.	
		Details are to be provided with the construction documentation.	
D1.17	Access to lift pits	Fire-isolated stairs and ramps are required to be constructed of non-combustible materials and not	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
		cause structural damage where subject to local failure.	
D2.2	Fire-isolated stairways and ramps	Fire isolated stairs are required to be designed in accordance with the requirements of this provision.	Capable of complying
D2.3	Non-fire isolated stairs and ramps	Non fire isolated stairs are required to be designed in accordance with the requirements of this provision.	Capable of complying
D2.4	Separation of rising and descending stair flights	Rising and descending fire-isolated stairs are required to be separated with non-combustible construction and smoke proof construction in accordance with Clause 2 of Specification C2.5. The fire-isolated exits at the southern side of the building have rising and descending flights and do not comply with these requirements.	Does not comply
D2.7	Installation in exits and paths of travel	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. All services which penetrate the cupboard are also required to be smoke sealed. Details are to be provided with the construction documentation.	Capable of complying
D2.8	Enclosure of space under stairs and ramps	The space below the required fire-isolated stairways must not be enclosed to form a cupboard or similar enclosed space.	Capable of complying
D2.9	Width of stairways	The required width of a stairway must be measured clear of all obstructions (eg skirting).	Capable of complying
D2.10	Pedestrian ramps	The requirements of the clause do not apply to the current design.	Capable of complying
D2.11	Fire-isolated passageways	Fire-isolated passageways are not proposed.	N/A





BCA Clause	Title	Assessment and Comment	Status
D2.12	Roof as open space	The requirements of the clause do not apply to the current design.	N/A
NSW D2.13	Goings & risers	Goings and risers are to be designed to comply with this clause including: going and riser dimensions; and non-slip finish or non-skid nosings. Construction documentation should demonstrate compliance	Capable of complying
D2.14	Landings	Landings are to be designed in accordance with this clause. The current documentation does not contain this level of detail.	Capable of complying
NSW D2.15	Thresholds	Thresholds are to comply with this clause.	Capable of complying
NSW D2.16	Barriers to prevent falls	Balustrades are to be designed to comply with this clause. The current documentation does not contain this level of detail.	Capable of complying
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. Handrails are required to be installed in accordance with AS1428.1-2009 except for fire-isolated stairs. Handrails within the fire-isolated stairs are required to comply with Clause 12 of AS1428.1-2009. Clause 12(e) of AS1428.1 requires the handrail to be consistent throughout the stair. This is achieved by having a one tread step back is shown in figure 28 of AS1428.1, otherwise the handrail will contain sections where the height is not consistent and will not comply. Details to be included within the construction certificate documentation	Capable of complying



BCA Clause	Title	Assessment and Comment	Status
		One tread width SECTION A-A SECTION A-A One tread width	
D2.18	Fixed platforms, walkways, stairways & ladders	Details are to be included within the construction certificate documentation were applicable.	Capable of complying
NSW D2.19	Doorways and doors	The sliding doors leading directly to the road or open space must be capable of being opened manually under a force of not more than 110 N. Power-operated doorway serving as a required exit or forming part of a required exit are required, to be opened manually under a force of not more than 110 N, open automatically if it leads directly to a road or open space. Construction documentation should also demonstrate compliance.	Capable of complying
D2.20	Swinging doors	A swinging door must not encroach and impede the path of travel of people already in a required	Capable of complying





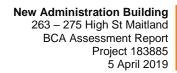
BCA Clause	Title	Assessment and Comment	Status
		exit by more than 500mm or 100mm when fully open.	
		Doors in or serving as a required exit must swing in the direction of egress unless it is fitted with a device for holding it in the open position.	
		Construction documentation should also demonstrate compliance.	
NSW D2.21	Operation of latch	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.	Capable of complying
		Construction documentation should also demonstrate compliance.	
D2.22	Re-entry from fire- isolated exits	Not applicable	N/A
D2.23	Signs on doors	A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to the following:	Capable of complying
		 A required fire door providing direct access to a fire-isolated exit, 	
		A fire door forming port of a harizontal axit.	
		A fire door forming part of a horizontal exit;A smoke door that swings in both directions;	
		 door leading from a fire isolated exit to a road or open space, 	
		Signage is required to be in capital letters not less than 20 mm high in a colour contrasting with the background and state:	
		for an automatic door held open by an automatic hold-open device:	
		FIRE SAFETY DOOR- DO NOT OBSTRUCT	
		or	
		2. for a self-closing door:	



BCA Clause	Title	Assessment and Comment	Status
		FIRE SAFETY DOOR	
		DO NOT OBSTRUCT	
		DO NOT KEEP OPEN	
		or	
		3. for a door discharging from a fire-isolated exit:	
		FIRE SAFETY DOOR- DO NOT OBSTRUCT.	
D2.24	Protection of openable windows	Not applicable	N/A
D2.25	Timber stairways: Concession	Not applicable	N/A

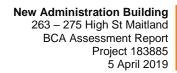
4.5. Services and Equipment (BCA Section E)

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. Where internal hydrants are provided, they must only serve the storey in which they are located.	Capable of complying
		The locations of hydrant boosters and pumps have not been details and the construction documentation should demonstrate compliance. Hydrant booster protection is not required in buildings protected with a sprinkler system.	
E1.4	Fire hose reels	A hose reel system must be provided to serve the basement storage area. The hose reel system must be installed in accordance with this clause and AS2441.	Capable of complying
E1.5	Sprinklers	A sprinkler system must be installed throughout the whole building and must comply with Specification E1.5. Construction documentation is to demonstrate compliance, including identifying	Capable of complying





BCA Clause	Title	Assessment & Comment	Status
		the location of the sprinkler valve room on revised drawings.	
E1.6	Portable fire extinguishers	Portable fire extinguishers are to comply with this provision and sections 1, 2, 3 and 4 of AS2444.	Capable of complying
E1.8	Fire control centres	Not applicable	N/A
E1.9	Fire precautions during construction	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.	Capable of complying
E2.2	General requirements	The building is to be provided with a sprinklr system in accordance with E1.5.	Capable of complying
E3.1	Lift installations	An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.	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.	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	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	Capable of complying





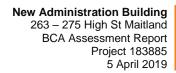
BCA Clause	Title	Assessment & Comment	Status
		AS1735.12-1999 is to be provided at the construction certificate stage.	
E3.7	Fire service controls	Not applicable	N/A
E3.8	Aged care buildings	Not applicable	N/A
E3.9	Fire service recall operation switch	Not applicable	N/A
E3.10	Lift car fire service drive control switch	Not applicable	N/A
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. Construction documentation should demonstrate compliance.	Capable of complying
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. Construction documentation should demonstrate compliance.	Capable of complying
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. Construction documentation should demonstrate compliance.	Capable of complying
E4,8	Design and operation of exit signs	Exit signs are to comply with AS2293.1-2005.	Capable of complying



BCA Clause	Title	Assessment & Comment	Status
E4.9	Sound systems and intercom systems for emergency purposes	Not applicable	N/A

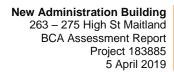
4.6. Health and Amenity (BCA Section F)

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.	Capable of complying
F1.1	Stormwater drainage	Stormwater drainage is required to be designed to comply with AS/NZS3500.3-2015. Construction documentation should demonstrate compliance	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.	Capable of complying
F1.5	Roof coverings	Lightweight metal roof sheeting is to comply with AS1562.1. Construction documentation should demonstrate compliance.	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.	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas are required to comply with this clause. Construction documentation should demonstrate compliance.	Capable of complying
F1.9	Damp-proofing	Damp proofing is required to be provided in accordance with this clause.	Capable of complying
F1.10	Damp-proofing of floor on ground	Damp proofing is required to be provided in accordance with this clause.	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 graded to prevent ponding and evenly spaced ventilation openings in accordance with this clause. The minimum sub-floor ventilation openings are to be achieved in accordance with Table F1.12 providing 6000 mm²/m wall.	Capable of complying
F1.13	Glazed assemblies	Glazed assemblies to comply with AS 2047 as applicable.	Capable of complying
F2.1	Facilities in residential buildings	Not applicable	N/A
F2.3	Facilities in Class 3 to 9 buildings	Sanitary facilities must be provided in accordance with this clause and Table F2.3. Adequate means of disposal of sanitary towels must be provided in sanitary facilities for use by females.	Capable of complying
F2.5	Construction of sanitary compartments	The construction of sanitary compartments is required to comply with this requirement. Doorways located less than 1.2m from the closet pan are required to swing outwards, slide or be	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
		capable of being removed from the outside (lift off hinges).	
F2.6	Interpretation: Urinals and washbasins	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. A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap.	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.	Capable of complying
F4.1-4.3	Provision of natural light	Not applicable	
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.	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.	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.	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 m² 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.	Capable of complying



BCA Clause	Title	Assessment and Comment	Status
		Mechanical ventilation of the bathrooms is to be provided.	
F4.11	Car park exhaust	Not applicable	N/A
F4.12	Kitchen local exhaust	Not applicable	N/A

4.7. Ancillary Provisions (BCA Section G)

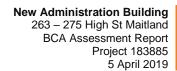
BCA Clause	Title	Assessment and comment	Status
NSW G1.101	Provision for the cleaning of windows	The method of provision for the cleaning of windows is required to be in accordance with this clause (windows 3 or more storeys above the ground).	Capable of complying
		Details are to be provided with the construction documentation submitted with the construction certificate.	

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

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

4.8.1. 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 of a Class 3 and 5 to 9 building in accordance with this clause.	Note
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.	Capable of complying





BCA Clause	Title	Assessment and Comment	Status
J1.3	Roof and Ceiling Construction	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.	Capable of complying
		Climate Zone 6 requires a minimum total R-Value of 3.2 measured downwards.	
		A roof that:	
		 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)), 	
		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.	
		Detail of the roof construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.	
J1.4	Roof Lights	Not applicable	
J1.5	Walls	Each part of an external wall that is part of the envelope must satisfy one of the options in Table J1.5a.	Capable of complying
		Any internal wall forming part of the envelope must achieve the total R-value in Table J1.5b.	
		A wall that:	
		 is required to achieve a minimum Total R- Value; and 	
		 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, 	



BCA Clause	Title	Assessment and Comment	Status
		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. Detail of the wall construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.	
J1.6	Floors	A floor that is part of the envelope of the building, including a floor above or below a car park or a plant room: must achieve the Total R-Value specified in	Capable of complying
		 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. 	
		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.	
		Some concrete slab on ground require insulation installed around the vertical edge of its perimeter as specified in this clause	

4.8.2. 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
J2.4	Glazing	Glazing must be designed in accordance with J2.4 to achieve the aggregate air-conditioning energy value.	Capable of complying



BCA Clause	Title	Assessment and Comment	Status
		A glazing calculator results are to be provided with the construction documentation to demonstrate compliance	
J2.5	Shading	Required shading must be designed in accordance with the requirements of this condition.	Capable of complying
		The construction documentation is to identify id shading is required and details to demonstrate compliance.	

4.8.3. 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	N/A
J3.3	Roof Light	Not applicable	N/A
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: Windows complying with AS2047, A fire or smoke door, Roller shutter doors.	Capable of complying
		The bottom edge of a swing door required to be sealed must have a draft protection device and the other edges of doors or windows must have a foam or rubber compression strip, fibrous seal or the like.	
		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	



BCA Clause	Status	Assessment and Comment	Status
		where the conditioned space has a floor area of not more than 50 m ² .	
		The construction documents are to have details demonstrating compliance.	
J3.5	Exhaust Fans	A miscellaneous exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a: conditioned space; or a habitable room in climate zone 4, 6, 7 & 8.	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.	Capable of complying
J3.7	Evaporative Coolers	Evaporative coolers are not proposed.	N/A

4.8.4. Air Conditioning and Ventilation Systems (Part J5)

BCA Clause	Status	Assessment and Comment	Status
J5.2	Air Conditioning System	Any proposed air-conditioning systems and mechanical ventilation systems must:	Capable of complying
		 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. 	
		The construction documents are to have details demonstrating compliance.	
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.	Capable of complying



BCA Clause	Status	Assessment and Comment	Status
		The construction documents are to have details demonstrating compliance.	
J5.4	Heating and chilling systems	 Heating a space other than via water, must be: 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. Package air-conditioning equipment with a capacity of not less than 65 kWr, 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. 	Capable of complying
J5.4	Miscellaneous exhaust system	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. The construction documents are to have details demonstrating compliance.	Capable of complying

4.8.5. Artificial Lighting and Power (Part J6)

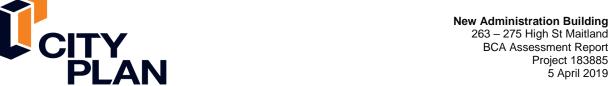
BCA Clause	Status	Assessment and Comment	Status
J6.2	Artificial lighting	Artificial lighting is to be designed in accordance with this provision.	Note
J6.3	Interior artificial lighting and power control	Artificial lighting and power control are to be designed and provided in accordance with this provision.	Capable of complying



BCA Clause	Status	Assessment and Comment	Status	
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.	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.	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.	Capable of complying	

4.8.6. 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 500m² must have the facility to record the consumption of gas and electricity.	Capable of complying
		2. A building with a floor area of more than 2,500m ² must have the facility to record individually the energy consumption of:	
		 (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 2,500m² where the total area of the common areas is less than 500m².	



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.

0	9	'		
No	Fire Safety Measures (as set out under Clause 166 of EP&A Regulations)	Standard of Performance	Existing	Proposed
1.	Access panels, doors & hoppers to fire resisting shaft	BCA 2016 C3.13 & AS 1905.1-2005, AS1905.2-2015	No	Yes
2.	Automatic fail safe devices	BCA 2016 D2.21 – (b)(iv) auto closing operation of fire doors in fire wall.	No	Yes
3.	Automatic fire suppression system	BCA 2016 E1.5, Spec E1.5 & AS 2118.1-1999 Amdt 1 or AS 2118.1-2017	No	Yes
4.	Emergency lighting	BCA 2016 Clause E4.2, E4.3, E4.4 & AS 2293.1 – 2005 Amdt 1 & 2	No	Yes
5.	Exit signs	BCA 2016 E4.5, E4.6, E4.8 Spec E4.8 & AS 2293.1-2005 _{Amdt 1 & 2}	No	Yes
6.	Fire doors	BCA 2016 C2.12 (separation of equipment); C2.13 (electricity supply systems); C3.5 (doorways & fire walls); & AS 1905.1 – 2015	No	Yes
7.	Fire rated lift landing doors	BCA 2016 C3.10 & AS 1735.11-1986	No	Yes
8.	Fire Hose reel systems	BCA 2016 E1.4 & AS 2441-2005 Amdt 1	No	Yes
9.	Fire hydrant systems	BCA 2016 E1.3 & AS 2419.1-2005 Amdt	No	Yes
10.	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 1530.42014	No	Yes
11.	Fire shutters	BCA 2016 C3.4, C3.5 & Spec C3.4	No	Yes
12.	Portable fire extinguishers	BCA 2016 E1.6 & AS 2444-2001	No	Yes
13.	Smoke detectors & heat detectors	BCA 2016 E2.2, Spec E2.2a & AS 1670.1-2015, C3.5 for automatic fire doors and shutters in fire walls.	No	Yes
14.	Warning and operational signs	EPA Regulation 2000 (Clause 183), D2.23 (signs on exit doors) E3.3 (lifts), C3.6 sliding doors	No	Yes





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

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