



BCA COMPLIANCE ASSESSMENT REPORT

Building Address	18 Sydney Road, Manly
Report No.	3250
Report For	InSitu Pty Ltd
Report By	Greg Murrow
Title / Company	Director Murrow Consulting Pty Ltd
Date	18 May 2022

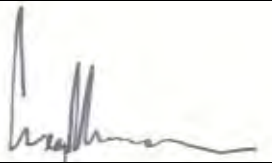
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REPORT REVISION STATUS

Report No.	Revision	Issue Date	Report Status	Author		
3250	A	18/05/2022	Original report	Prepared and approved by:	Greg Murrow Director	

A. EXECUTIVE SUMMARY

This report provides a Building Code of Australia (BCA) compliance assessment of the proposed alterations and additions to the existing Insitu bar and restaurant within the existing multi-storey mixed use commercial and residential building at 18 Sydney Road, Manly.

The purpose of this report is to identify the non-compliance matters contained in the proposed design (proposed new works) against the current Deemed-to-Satisfy (DTS) Provisions of the BCA Volume One and to provide recommendations to overcome the DTS non-compliances.

The proposed design, in relation to numerous DTS Provisions, shall be further detailed as nominated in yellow in the Section D table prior to the issue of a Construction Certificate (CC).

B. INTRODUCTION

This report provides a Building Code of Australia (BCA) compliance assessment of the proposed alterations and additions to the existing Insitu bar and restaurant within the existing multi-storey mixed use commercial and residential building at 18 Sydney Road, Manly.

The proposed alterations and additions are contained within the part of the rear courtyard of the premises that has been allocated to the existing Insitu bar and restaurant at 18 Sydney Road, Manly. The new works comprise a new northern courtyard exit door, new detached store room structure; and a new attached servery, back-of-house wash area and coolroom part.

BCA (NCC) 2022

At present, the current BCA (2019 Amendment 1) will have effect for new building works the subject of construction certificates that are applied for up to 30 April 2023. The commencement date of BCA 2022, also known as the National Construction Code (NCC) 2022, is scheduled for 1 May 2023. This means all new building works the subject of construction certificates that are applied for from 1 May 2023 and beyond will be subject to BCA 2022.

The current BCA (2019 Amendment 1) will remain current and in use until BCA 2022 is released. If an application for a construction certificate is made/lodged after 30 April 2023, BCA 2022 will apply to those proposed building works, which would necessitate a separate compliance assessment against BCA 2022.

PURPOSE OF THE REPORT

This report only applies to the existing Insitu bar and restaurant within the existing multi-storey mixed use commercial and residential building at 18 Sydney Road, Manly.

The purpose of this report is to identify the non-compliance matters contained in the proposed design (proposed new works) against the current Deemed-to-Satisfy (DTS) Provisions of the BCA Volume One and to provide recommendations to overcome the DTS non-compliances.

INFORMATION RELIED UPON

The following inspections and information has been relied upon in the execution of this report.

Item No.	Documentation	Date
Inspections		
1.	Inspection of the existing tenancy and building common area toilets.	30.03.22
Plans		
2.	Architectural plans issued by Sarm Architects (Job No. 21012).	
	Drawing No.	Drawing Title
	A03	Proposed Plan
		Revision
		p5
		11.02.22
Applicable BCA		
3.	National Construction Code – Volume One – Building Code of Australia 2019 Amendment 1, published by the Australia Building Codes Board (ABCB)	2020
4.	National Construction Code – Guide to Volume One 2019 Amendment 1, published by the Australia Building Codes Board (ABCB)	2020

REPORT EXCLUSIONS

The following exclusions / limitations apply to this report:

1. This report only applies to the proposed alterations and additions to the existing multi-storey mixed-use commercial and residential building at 18 Sydney Road, Manly;
2. This report does not address any matters that are outside the scope of the BCA;
3. This report is limited to an assessment of the proposed building works against sections C, D, E, F and G of the BCA only; and the Disability (Access to Premises) Standards 2010;

4. This report does not provide any guarantee against complaints made under the Disability Discrimination Act 1992;
5. This report does not provide any assessment of the existing fire resistance levels (FRLs) of the building or the combustibility or fire hazard properties of any materials inside / outside the building, such as cladding;
6. This report does not provide any assessment of any external wall systems including but not limited to any external insulation, finishing system, wall panelling, cladding or façade material;
7. This report does not provide any Performance Solutions as recognised in the BCA, or fire engineering advice;
8. This report does not consider any structural elements or geotechnical matters relating to the building;
9. There was no assessment of hydraulic systems, mechanical systems or electrical systems;
10. The heritage or conservation area status of the building was not considered;
11. This report does not consider Work Health & Safety considerations;
12. This report does not consider energy or water authority requirements; and
13. This report does not consider Council's local planning policies or any development consent that applies to the development.

The following floor plan is indicative of the design of the new work.



C. BUILDING INFORMATION

BUILDING BCA INFORMATION SUMMARY

The following is a summary of the BCA assessment data in relation to the existing multi-storey mixed-use commercial and residential building at 18 Sydney Road, Manly.

Applicable Volume of BCA	One	
Applicable Edition of BCA	2019 Amendment 1	
BCA Building Classification(s)	Class 2, Class 6, Class 7a	
"Rise in storeys"	More than 3	
Type of Construction	Type A Construction	
"Effective height"	TBC	
"Fire source features"	North	Zero (0m) setback to adjoining northern allotment boundary/easement
	East	Zero (0m) setback to adjoining eastern allotment boundary
	South	More than 6m to far side of Sydney Road
	West	More than 6m to far side of Central Avenue

Note: Terms in italics above are BCA defined terms.

Fire-source feature means—

- (a) the far boundary of a road, river, lake or the like adjoining the allotment; or
- (b) a side or rear boundary of the allotment; or
- (c) an external wall of another building on the allotment which is not a Class 10 building.

Rise in storeys means the greatest number of storeys calculated in accordance with C1.2 of Volume One.

C1.2 Calculation of rise in storeys

(a) The rise in storeys is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space—

- (i) above the finished ground next to that part; or
- (ii) if part of the external wall is on the boundary of the allotment, above the natural ground level at the relevant part of the boundary.

(b) A storey is not counted if—

- (i) it is situated at the top of the building and contains only heating, ventilating or lift equipment, water tanks, or similar service units or equipment; or
- (ii) it is situated partly below the finished ground and the underside of the ceiling is not more than 1 m above the average finished level of the ground at the external wall, or if the external wall is more than 12 m long, the average for the 12 m part where the ground is lowest.

Storey means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not—

(a) a space that contains only—

- (i) a lift shaft, stairway or meter room; or
- (ii) a bathroom, shower room, laundry, water closet, or other sanitary compartment; or
- (iii) accommodation intended for not more than 3 vehicles; or
- (iv) a combination of the above; or

(b) a mezzanine.

D. BCA COMPLIANCE ASSESSMENT TABLE

The following table details the DTS compliance of the proposed design.

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
SECTION C FIRE RESISTANCE		
Part C1 Fire Resistance and Stability		
C1.1 Type of construction required & Specification C1.1 Fire-resisting construction	To be further detailed at CC stage	<p>Type A Construction required for all new building elements. New building works shall comply with clauses 2 and 3 and Table 3 of Specification C1.1 (see Annexure 1).</p> <p>Required minimum FRLs of building elements (see Annexure 1):</p> <ul style="list-style-type: none"> <u>New external walls including any column and other building element incorporated within it (and parts of external walls):</u> <ul style="list-style-type: none"> Parts less than 1.5m to side boundaries/easement to achieve an FRL of not less than 180/180/180 (loadbearing parts) and an FRL of not less than -/180/180 (non-loadbearing parts). Parts between 1.5m to less than 3.0m to side boundaries/easement to achieve an FRL of not less than 180/180/120 (loadbearing parts) and an FRL of not less than -/180/120 (non-loadbearing parts). Parts more than 3.0m to side boundaries/easement/far side of road to achieve an FRL of not less than 180/120/90 (loadbearing parts) and no FRL for non-loadbearing parts. Any reduction of FRLs from 180 minutes will not comply with Table 3 of Specification C1.1. <u>New floors:</u> New floors between GF and B1 to achieve an FRL of not less than 180/180/180. Any reduction of FRLs from 180 minutes will not comply with Table 3 of Specification C1.1. <u>Roofs:</u> New roofs to achieve an FRL of not less than 180/60/30. Any reduction of FRLs from 180 minutes will not comply with Table 3 of Specification C1.1. <u>Clause 3.5 (Roof: Concession):</u> A roof need not comply with Table 3 if its covering is non-combustible and the building— <ul style="list-style-type: none"> Has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout; or Has an effective height of not more than 25 m and the ceiling immediately below the roof has a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.
C1.2 Calculation of rise in storeys	Noted	RIS – 4
C1.3 Buildings of multiple classification	Not applicable	
C1.4 Mixed types of construction	Not applicable	
C1.5 Two storey Class 2, 3 or 9c buildings	Not applicable	
C1.6 Class 4 parts of buildings	Not applicable	
C1.7 Open spectator stands and indoor sports stadiums	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
C1.8 Lightweight construction	To be further detailed at CC stage	<p><u>Subclause (a)</u> Lightweight construction must comply with Specification C1.8 if it is used in a wall system that is required to have an FRL.</p> <p><u>Subclause (b)</u> If lightweight construction is used for the fire-resisting covering of a steel column or the like, and if— (i) the covering is not in continuous contact with the column, then the void must be filled solid, to a height of not less than 1.2 m above the floor to prevent indenting; and (ii) the column is liable to be damaged from the movement of vehicles, materials or equipment, then the covering must be protected by steel or other suitable material.</p>
C1.9 Non-combustible building elements	To be further detailed at CC stage	<p><u>Subclause (a)</u> The following building elements and their components must be non-combustible: (i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. (ii) Not applicable. (iii) Non-loadbearing internal walls where they are required to be fire-resisting.</p> <p><u>Subclause (b)</u> A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction.</p> <p><u>Subclause (c)</u> A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1.</p> <p><u>Subclause (d)</u> The requirements of (a) and (b) do not apply to the following: (i) Gaskets. (ii) Caulking. (iii) Sealants. (iv) Termite management systems. (v) Glass, including laminated glass. (vi) Thermal breaks associated with glazing systems. (vii) Damp-proof courses.</p> <p><u>Subclause (e)</u> The following materials may be used wherever a non-combustible material is required: (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish. (iii) Fibrous-plaster sheet. (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (vi) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (vii) Bonded laminated materials where— (A) each lamina, including any core, is non-combustible; and (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and</p>

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
		(C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.
C1.10 Fire hazard properties	To be further detailed at CC stage	<p>Except where an exemption is provided for in C1.10(c), the fire hazard properties of the following new linings, materials and assemblies must comply with Specification C1.10:</p> <ul style="list-style-type: none"> • Floor linings and floor coverings. • Wall linings and ceiling linings. • Air-handling ductwork. • Sarking-type materials. • Attachments to floors, ceilings, internal walls, common walls, fire walls and to internal linings of external walls. • Other materials including insulation materials other than sarking-type materials. <p>Paint or fire-retardant coatings must not be used to achieve compliance with the required fire hazard properties.</p>
C1.11 Performance of external walls in fire	Not applicable	
C1.12	Blank clause	
C1.13 Fire-protected timber: Concession	Not applicable	
C1.14 Ancillary elements	To be further detailed at CC stage	<p>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:</p> <p>(a) An ancillary element that is non-combustible.</p> <p>(b) A gutter, downpipe or other plumbing fixture or fitting.</p> <p>(c) A flashing.</p> <p>(d) A grate or grille not more than 2 m² in area associated with a building service.</p> <p>(e) An electrical switch, socket-outlet, cover plate or the like.</p> <p>(f) A light fitting.</p> <p>(g) A required sign.</p> <p>(h) A sign other than one provided under (a) or (g) that—</p> <ul style="list-style-type: none"> (i) achieves a group number of 1 or 2; and (ii) does not extend beyond one storey; and (iii) does not extend beyond one fire compartment; and (iv) is separated vertically from other signs permitted under (h) by at least 2 storeys. <p>(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—</p> <ul style="list-style-type: none"> (i) meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and (ii) serves a storey— <ul style="list-style-type: none"> (A) at ground level; or (B) immediately above a storey at ground level; and (iii) does not serve an exit, where it would render the exits unusable in a fire. <p>(j) A part of a security, intercom or announcement system.</p> <p>(k) Wiring.</p> <p>(l) A paint, lacquer or a similar finish.</p> <p>(m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).</p>
Part C2 Compartmentation and Separation		

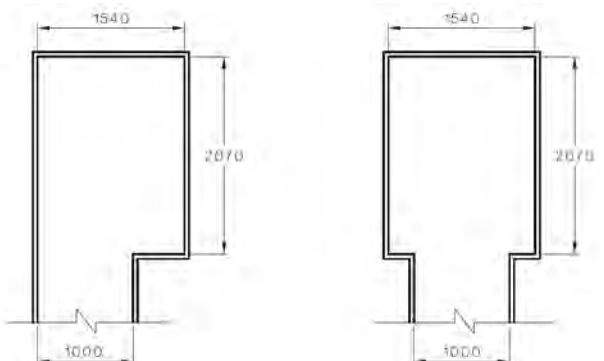
BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
C2.1 Application of Part	Noted	
C2.2 General floor area and volume limitations	Complies	<ul style="list-style-type: none"> <u>New detached Store room structure fire compartment</u> – Class 6 (Type A Construction): Floor area does not exceed 5,000m² and volume does not exceed 30,000m³ (complies). <u>New servery, back-of-house wash area and coolroom part attached to existing restaurant fire compartment</u> – Class 6 (Type A Construction): Floor area does not exceed 5,000m² and volume does not exceed 30,000m³ (complies).
C2.3 Large isolated buildings	Not applicable	
C2.4 Requirements for open spaces and vehicular access	Not applicable	
C2.5 Class 9a and 9c buildings	Not applicable	
C2.6 Vertical separation of openings in external walls	Not applicable	
C2.7 Separation by fire walls	Not applicable	
C2.8 Separation of classifications in the same storey	Not applicable	
C2.9 Separation of classifications in different storeys	To be further detailed at CC stage	New floors between GF and B1 to achieve an FRL of not less than 180/180/180. Any reduction of FRLs from 180 minutes will not comply with Table 3 of Specification C1.1.
C2.10 Separation of lifts shafts	Not applicable	
C2.11 Stairways and lifts in one shaft	Not applicable	
C2.12 Separation of equipment	Not applicable	
C2.13 Electricity supply system	Not applicable	No proposed change to existing building in relation to this clause.
C2.14 Public corridors in Class 2 and 3 buildings	Not applicable	
Part C3 Protection of Openings		
C3.1 Application of Part	Noted	
C3.2 Protection of openings in external walls	To be further detailed at CC stage	<p>The new Store room doorway is a new opening in an external wall (that is required to have an FRL) and is within 3m from adjoining northern allotment boundary/easement and must be protected.</p> <p>This opening shall be either:</p> <ul style="list-style-type: none"> Repositioned to not less than 3.0m from the side boundary; or Obstructed by another part of the building (i.e. a blade wall) that has an FRL of not less than 30/-/-; and is neither transparent nor translucent as per Clause 2.1(a) of Specification C1.1. Protected in accordance with C3.4 (and if wall-wetting sprinklers are used, they are located externally); or Addressed in a Performance Solution report at CC stage.
C3.3 Separation of external walls and associated openings in different fire compartments	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
C3.4 Acceptable methods of protection	Noted	<p>(a) Where protection is required, doorways, windows and other openings must be protected as follows:</p> <p>(i) Doorways—</p> <p>(A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or</p> <p>(B) –/60/30 fire doors that are self-closing or automatic closing.</p> <p>(ii) Windows—</p> <p>(A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or</p> <p>(B) –/60/– fire windows that are automatic closing or permanently fixed in the closed position; or</p> <p>(C) –/60/– automatic closing fire shutters.</p> <p>(iii) Other openings—</p> <p>(A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or</p> <p>(B) construction having an FRL not less than –/60/–.</p> <p>(b) Fire doors, fire windows and fire shutters must comply with Specification C3.4.</p>
C3.5 Doorways in fire walls	Not applicable	
C3.6 Sliding fire doors	Not applicable	
C3.7 Protection of doorways in horizontal exits	Not applicable	
C3.8 Openings in fire-isolated exits	Not applicable	
C3.9 Service penetrations in fire-isolated exits	Not applicable	
C3.10 Openings in fire-isolated lift shafts	Not applicable	
C3.11 Bounding construction: Class 2 and 3 buildings and Class 4 parts	Not applicable	
C3.12 Openings in floors and ceilings for services	To be further detailed at CC stage	Where a new service passes through a floor that is required to have an FRL with respect to integrity and insulation (i.e. the new floors between GF and B1), the service must be protected by a shaft complying with Specification C1.1; or in accordance with C3.15.
C3.13 Openings in shafts	To be further detailed at CC stage	<p>An opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by—</p> <p>(a) if it is in a sanitary compartment — a door or panel which, together with its frame, is non-combustible or has an FRL of not less than –/30/30; or</p> <p>(b) a self-closing –/60/30 fire door or hopper; or</p> <p>(c) an access panel having an FRL of not less than –/60/30; or</p> <p>(d) if the shaft is a garbage shaft — a door or hopper of non-combustible construction.</p>
C3.14	Blank clause	
C3.15 Openings for service installations	To be further detailed at CC stage	New services (such as electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service) that penetrate a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, shall be fire-stopped in accordance with a tested system (i.e. identical with a prototype assembly of the service, building element and protection method which has been tested in

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
		accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire); AS 1668.1-2015; or Specification C3.15 of the BCA.
C3.16 Construction joints	To be further detailed at CC stage	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.
C3.17 Columns protected in lightweight construction to achieve an FRL	To be further detailed at CC stage	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.
SECTION D ACCESS AND EGRESS		
Part D1 Provision for Escape		
D1.1 Application of Part	Noted	
D1.2 Number of exits required	Complies	2 exits required and 3 provided (complies): <ul style="list-style-type: none"> Exit 1: New exit door from courtyard to adjoining northern allotment/easement; Exit 2: Existing "Insitu" bar main entry/exit door to Sydney Road; Exit 3: Existing "Takio" bar main entry/exit door to Sydney Road.
D1.3 When fire-isolated stairways and ramps are required	Not applicable	
D1.4 Exit travel distances	Complies	There is no point on the "Insitu" bar/courtyard floor that is more than 20 m from a point from which travel in different directions to 2 exits is available, and the maximum distance to one of those exits does not exceed 40m (complies).
D1.5 Distance between alternative exits	Complies	<ul style="list-style-type: none"> The distance between Exit 1 and Exit 2 is between 9-60m apart (measured through the point of choice) (complies). The distance between Exit 1 and Exit 3 is between 9-60m apart (measured through the point of choice) (complies).
D1.6 Dimensions of exits and paths of travel to exits	To be further detailed at CC stage	The following details of exits and paths of travel to exits shall be provided on plan: <ul style="list-style-type: none"> <u>Widths</u>: Unobstructed width of not less than 1m (clear of kitchen fixtures); <u>Heights</u>: The unobstructed height of not less than 2 m and doorways not less than 1980mm in height; <u>Doorways</u>: Unobstructed width of not less than 750mm (unless required for access which is to be minimum 850mm).
D1.7 Travel via fire-isolated exits	Not applicable	
D1.8 External stairways or ramps in lieu of fire-isolated exits	Not applicable	
D1.9 Travel by non-fire-isolated stairways or ramps	Not applicable	
D1.10 Discharge from exits	Not applicable	No proposed change to existing building in relation to this clause.
D1.11 Horizontal exits	Not applicable	
D1.12 Non-required stairways, ramps or escalators	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
D1.13 Number of persons accommodated	Noted	"Insitu" bar: Population proposed to be 100 patrons and 10 staff (total 110) at any one time.
D1.14 Measurement of distances	Noted	
D1.15 Method of measurement	Noted	
D1.16 Plant rooms, lift machine rooms and electricity network substations: concession	Not applicable	
D1.17 Access to lift pits	Not applicable	
D1.18 Egress from early childhood centres	Not applicable	
Part D2 Construction of Exits		
D2.1 Application of Part	Noted	
D2.2 Fire-isolated stairways and ramps	Not applicable	
D2.3 Non-fire-isolated stairways and ramps	Not applicable	
D2.4 Separation of rising and descending stair flights	Not applicable	
D2.5 Open access ramps and balconies	Not applicable	
D2.6 Smoke lobbies	Not applicable	
D2.7 Installations in exits and paths of travel	To be further detailed at CC stage	Subclause (d): Any new services or equipment comprising— (i) electricity meters, distribution boards or ducts; or (ii) central telecommunications distribution boards or equipment; or (iii) electrical motors or other motors serving equipment in the building, may be installed in any corridor, hallway, lobby or the like leading to a required exit, if the services or equipment are enclosed by non-combustible construction or a fire-protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.
D2.8 Enclosure of space under stairs and ramps	Not applicable	
D2.9 Width of required stairways and ramps	Noted	
D2.10 Pedestrian ramps	Not applicable	
D2.11 Fire-isolated passageways	Not applicable	
D2.12 Roof as open space	Not applicable	
D2.13 Goings and risers	Not applicable	
D2.14 Landings	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
D2.15 Thresholds	To be further detailed at CC stage	<p>There is no indication of the threshold of any new doorways incorporating a step or ramp at any point closer to the doorway than the width of the door leaf.</p> <p><u>General</u> The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless—</p> <p>(c) in a doorway required to be accessible by Part D3, the doorway:</p> <ul style="list-style-type: none"> (i) opens to a road or open space; and (ii) is provided with a threshold ramp or step ramp in accordance with AS 1428.1-2009; or <p>(d) in other cases—</p> <ul style="list-style-type: none"> (i) the doorway opens to a road or open space, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.
D2.16 Barriers to prevent falls	Not applicable	
D2.17 Handrails	Not applicable	
D2.18 Fixed platforms, walkways, stairways and ladders	Not applicable	
D2.19 Doorways and doors	Not applicable	
D2.20 Swinging doors	To be further detailed at CC stage	<p><u>Subclause (b)(i):</u> The following new exit doors do not swing in the direction of egress and shall be fitted with a device for holding each in the open position as per D2.20(b)(i):</p> <ul style="list-style-type: none"> • New Store room door; • New servery/back-of-house wash area door.
D2.21 Operation of latch	To be further detailed at CC stage	<p><u>Subclause (a)(i):</u> The new exit door from the courtyard to the adjoining northern allotment/easement (Exit 1) must be readily openable without a key from the side that faces a person seeking egress by a single hand downward action on a single device which is located between 900mm and 1.1 m from the floor and be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm and not more than 45mm as per D2.21(a).</p> <p><u>Subclause (a)(ii):</u> The new Store room door and the new servery/back-of-house wash area doors must be readily openable without a key from the side that faces a person seeking egress, by a single hand pushing action on a single device which is located between 900 mm and 1.2 m from the floor.</p>
D2.22 Re-entry from fire-isolated exits	Not applicable	
D2.23 Signs on doors	Not applicable	
D2.24 Protection of openable windows	Not applicable	
D2.25 Timber stairways: Concession	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
Part D3 Access for People with a Disability		
D3.1 General building access requirements	To be further detailed at CC stage	<p>Existing parts of bar/courtyard: No proposed change to existing building in relation to this clause.</p> <p><u>New parts:</u> Disabled access is required to and within all areas normally used by the occupants. The new detached Store room; and the new servery, back-of-house wash area and coolroom part are not required to be accessible as per D3.4.</p> <p><u>Doorways:</u> The new exit door / accessible entry door from courtyard to adjoining northern allotment/easement (Exit 1) shall comply with the following requirements of AS 1428.1-2009:</p> <ul style="list-style-type: none"> • Luminance contrast (Clause 13.1); • Minimum clear opening of 850mm (Clause 13.2); • Circulation spaces (Clause 13.3); • Door controls (Clause 13.5).
D3.2 Access to buildings	Not applicable	No proposed change to existing building in relation to this clause.
D3.3 Parts of buildings to be accessible	To be further detailed at CC stage	<p><u>Subclause (a):</u> (i): <u>Ramps</u>: See D2.15. (ii) <u>Non-fire-isolated stairways</u>: Not applicable. (iii) <u>Fire-isolated stairways</u>: Not applicable.</p> <p><u>Subclause (b):</u> Not applicable.</p> <p><u>Subclause (c):</u> (i): Accessways shall have passing spaces complying with AS 1428.1-2009 (i.e. 1.8m x 2m) at maximum 20 m intervals where a direct line of sight is not available. (ii): Turning spaces with dimensions of 1540mm wide x 2070mm long (as per Clause 6.5.3 AS 1428.1-2009 – see below) shall be provided within 2 m of the end of accessways where it is not possible to continue travelling along the accessway.</p> <div style="text-align: center;">  <p>(a) Space required in corridor (b) Space required in corridor</p> </div> <p><u>Subclause (d):</u> An intersection of accessways satisfies the spatial requirements for a passing and turning space.</p> <p><u>Subclause (e):</u> A passing space may serve as a turning space.</p> <p><u>Subclause (g)-(h):</u> Not applicable as no carpet will be proposed.</p>

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
D3.4 Exemptions	Noted	Access is not required to the following rooms as they are areas where access would be inappropriate because of the particular purpose for which the area is used; and/or are areas that would pose a health or safety risk for people with a disability: <ul style="list-style-type: none"> New detached Store room; New servery, back-of-house wash area and coolroom part.
D3.5 Accessible carparking	Not applicable	
D3.6 Signage	To be further detailed at CC stage	<p><u>Subclause (a):</u> Braille and tactile signage complying with Specification D3.6 must— (ii) identify each door required by E4.5 to be provided with an exit sign and state— (A) "Exit"; and (B) "Level" ; and either (aa) the floor level number; or (bb) a floor level descriptor; or (cc) a combination of (aa) and (bb).</p> <p><u>Subclause (b)-(g):</u> Not applicable.</p>
D3.7 Hearing augmentation	Not applicable	
D3.8 Tactile indicators	To be further detailed at CC stage	<p><u>Subclause (a)(i):</u> Not applicable.</p> <p><u>Subclause (a)(v):</u> Tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching in the absence of a suitable barrier an overhead obstruction less than 2 m above floor level, other than a doorway.</p> <p><u>Subclause (b):</u> Tactile ground surface indicators required by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1-2009.</p>
D3.9 Wheelchair seating spaces in Class 9b assembly buildings	Not applicable	
D3.10 Swimming pools	Not applicable	
D3.11 Ramps	Not applicable	
D3.12 Glazing on an accessway	To be further detailed at CC stage	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1-2009.
SECTION E SERVICES AND EQUIPMENT		
Part E1 Fire Fighting Equipment		
E1.3 Fire hydrants	To be further detailed at CC stage	<p>The new detached Store room and the new servery, back-of-house wash area and coolroom part shall be served by compliant hydrant coverage.</p> <p><u>Coverage:</u> All points on the floor shall be within reach of a 10m stream issuing from the nozzle at the end of:</p> <ul style="list-style-type: none"> <u>From internal hydrants:</u> A 30 m length of hose laid on floor connected to the fire hydrant outlet. The hose shall extend a minimum length of 1 m into the area to which the fire hydrant is providing coverage. <u>From external attack hydrants:</u> A 60 m length of hose laid on the ground; and a minimum of 1 m of hose shall extend into any room served.

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
E1.4 Fire hose reels	To be further detailed at CC stage	The new detached Store room and the new servery, back-of-house wash area and coolroom part shall be served by compliant hose reel coverage. <u>Coverage:</u> All points on the floor shall be reach of a 4 m hose stream issuing from a nozzle at the end of the hose laid on floor of length not exceeding 36 m.
E1.5 Sprinklers	Not applicable	
E1.6 Portable fire extinguishers	To be further detailed at CC stage	Portable fire extinguishers must be provided to cover: <ul style="list-style-type: none"> Class AE or E fire risks associated with emergency services switchboards, which sustain emergency equipment operating in the emergency mode. Class F fire risks involving cooking oils and fats in kitchens <u>General</u> Portable fire extinguishers must be provided in accordance with Table E1.6 of the BCA and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444-2001.
E1.7	Blank clause	
E1.8 Fire control centres	Not applicable	
E1.9 Fire precautions during construction	To be further detailed at CC stage	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.
E1.10 Provision for special hazards	Not applicable	
Part E2 Smoke Hazard Management		
E2.2 General requirements	To be further detailed at CC stage	<u>As per Table E2.2a</u> If the building is provided with an automatic smoke detection and alarm system, it shall be extended to the new detached Store room and the new servery, back-of-house wash area and coolroom part in accordance with BCA Specification E2.2a and AS 1670.1-2018.
E2.3 Provision for special hazards	Not applicable	
Part E3 Lift Installations		
E3.1 Lift installations	Not applicable	
E3.2 Stretcher facility in lifts	Not applicable	
E3.3 Warning against use of lifts in fire	Not applicable	
E3.4 Emergency lifts	Not applicable	
E3.5 Landings	Not applicable	
E3.6 Passenger lifts	Not applicable	
E3.7 Fire service controls	Not applicable	
E3.8 Residential care buildings	Not applicable	
E3.9 Fire service recall control switch	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
E3.10 Lift car fire service drive control switch	Not applicable	
Part E4 Visibility in an Emergency, Exit Signs and Warning Signs		
E4.2 Emergency lighting requirements	Not applicable	
E4.3 Measurement of distance	Noted	
E4.4 Design and operation of emergency lighting	Noted	
E4.5 Exit signs	To be further detailed at CC stage	Exit signs, complying with E4.8, shall be provided on, above, or adjacent to Exit 1, Exit and Exit 3 (see D1.2).
E4.6 Direction signs	To be further detailed at CC stage	Direction signs, complying with E4.8, must be installed in appropriate positions in the new detached Store room and the new servery, back-of-house wash area and coolroom part indicating the direction to the required exits.
E4.7 Class 2 and 3 buildings and Class 4 parts: Exemptions	Not applicable	
E4.8 Design and operation of exit signs	To be further detailed at CC stage	Exit signs shall comply with: (a) AS/NZS 2293.1-2018; or (b) For a photoluminescent exit sign, Specification E4.8 and be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.
E4.9 Emergency warning and intercom systems	Not applicable	
SECTION F HEALTH AND AMENITY		
Part F1 Damp and Weatherproofing		
F1.0 Deemed-to-Satisfy Provisions	To be further detailed at CC stage	<u>Subclause (a):</u> Performance Requirement FP1.4, for the prevention of the penetration of water through new external walls, must be complied with. There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls and is to be addressed with a Performance Solution.
F1.1 Stormwater drainage	To be further detailed at CC stage	New stormwater drainage must comply with AS/NZS 3500.3.
F1.2	Blank clause	
F1.3	Blank clause	
F1.4 External above ground membranes	To be further detailed at CC stage	New waterproofing membranes for external above ground use must comply with AS 4654 Parts 1 and 2.
F1.5 Roof coverings	To be further detailed at CC stage	The new roofs must be covered with— <ul style="list-style-type: none"> concrete roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050, as appropriate; or terracotta roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050; or cellulose cement corrugated sheeting complying with AS/NZS 2908.1 and installed in accordance with AS/NZS 1562.2; or metal sheet roofing complying with AS 1562.1; or

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
		<ul style="list-style-type: none"> plastic sheet roofing designed and installed in accordance with AS/NZS 4256.1, AS/NZS 4256.2, AS/NZS 4256.3, AS/NZS 4256.5 and AS/NZS 1562.3; or Terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597, except in cyclonic areas.
F1.6 Sarking	To be further detailed at CC stage	Sarking-type material used for weatherproofing of roofs and walls must comply with AS/NZS 4200.1 and AS 4200.2.
F1.7 Waterproofing of wet areas in buildings	Not applicable	No proposed change to existing building in relation to this clause.
F1.8	Blank clause	
F1.9 Damp-proofing	To be further detailed at CC stage	<p><u>Subclause (a):</u> Moisture from the ground must be prevented from reaching— (i) the lowest floor timbers and the walls above the lowest floor joists; and (ii) the walls above the damp-proof course; and (iii) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders.</p> <p><u>Subclause (b):</u> Where a new damp-proof course is provided, it must consist of a material that complies with AS/NZS 2904; or impervious sheet material in accordance with AS 3660.1.</p>
F1.10 Damp-proofing of floors on the ground	To be further detailed at CC stage	<p>If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870, except damp-proofing need not be provided if— (a) weatherproofing is not required; or (b) the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.</p>
F1.11 Provision of floor wastes	Not applicable	No proposed change to existing building in relation to this clause.
F1.12 Subfloor ventilation	Not applicable	
F1.13 Glazed assemblies	To be further detailed at CC stage	New glazed assemblies in an external wall must comply with AS 2047-2014 requirements for resistance to water penetration.
Part F2 Sanitary and Other Facilities		
F2.1 Facilities in residential buildings	Not applicable	
F2.2 Calculation of number of occupants and facilities	Noted	
F2.3 Facilities in Class 3 to 9 buildings	Not applicable	No proposed change to existing building in relation to this clause.
F2.4 Accessible sanitary facilities	Not applicable	No proposed change to existing building in relation to this clause.
F2.5 Construction of sanitary compartments	Not applicable	No proposed change to existing building in relation to this clause.
F2.6 Interpretation: Urinals and washbasins	Noted	
F2.7 Microbial (legionella) control	Deleted in NSW	
F2.8 Waste management	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
F2.9 Accessible adult change facilities	Not applicable	
Part F3 Room Heights		
F3.1 Height of rooms and other spaces	To be further detailed at CC stage	<u>New detached Store room:</u> The height of this room shall be not less than 2.1m as per F3.1(f)(i). <u>New servery, back-of-house wash area and coolroom part:</u> The height of this part shall be not less than 2.4m as per F3.1(b)(i).
Part F4 Light and Ventilation		
F4.1 Provision of natural light	Not applicable	
F4.2 Methods and extent of natural light	Not applicable	
F4.3 Natural light borrowed from adjoining room	Not applicable	
F4.4 Artificial lighting	To be further detailed at CC stage	<u>Subclause (a):</u> Artificial lighting must be provided— <ul style="list-style-type: none"> in required stairways, passageways, and ramps; and if natural light of a standard equivalent to that required by F4.2 is not available, and the periods of occupation or use of the room or space will create undue hazard to occupants seeking egress in an emergency to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress. <u>Subclause (b):</u> The artificial lighting system must comply with AS/NZS 1680.0.
F4.5 Ventilation of rooms	To be further detailed at CC stage	The new detached Store room and the new servery, back-of-house wash area and coolroom part must be provided either with adequate natural ventilation complying with F4.6, or mechanical ventilation complying with AS 1668.2-2012.
F4.6 Natural ventilation	Noted	<u>Subclause (a):</u> Natural ventilation must consist of openings, windows, doors or other devices which can be opened— <ul style="list-style-type: none"> (i) with a ventilating area not less than 5% of the floor area of the room required to be ventilated; and (ii) open to— <ul style="list-style-type: none"> (A) a suitably sized court, or space open to the sky; or (B) an open verandah, carport, or the like; or (C) an adjoining room in accordance with F4.7.
F4.7 Ventilation borrowed from adjoining room	Not applicable	
F4.8 Restriction on location of sanitary compartments	Not applicable	
F4.9 Airlocks	Not applicable	
F4.10	Blank clause	
F4.11 Carparks	Not applicable	
F4.12 Kitchen local exhaust ventilation	Not applicable	

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
Part F5 Sound Transmission and Insulation		
F5.1 Application of Part	Not applicable	
Part F6 Condensation management		
F6.1 Application of Part	Not applicable	
SECTION G ANCILLARY PROVISIONS		
Part G1 Minor Structures and Components		
NSW G1.1 Swimming pools	Not applicable	
G1.2 Refrigerated chambers, strong-rooms and vaults	To be further detailed at CC stage	<p><u>Subclause (a):</u> The new refrigerated or cooling chamber, strongroom or vault which is of sufficient size for a person to enter must have—</p> <ul style="list-style-type: none"> (i) a door which is capable of being opened by hand from inside without a key; and (ii) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and (iii) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the interior lights required by (a)(ii) are switched on; and (iv) an alarm that is— <ul style="list-style-type: none"> (A) located outside but controllable only from within the chamber, strongroom or vault; and (B) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90dB(A) when measured 3 m from the sounding device. <p><u>Subclause (b):</u> A door in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.</p>
G1.3 Outdoor play spaces	Not applicable	
NSW G1.101 Provision for cleaning windows	Not applicable	No proposed change to existing building in relation to this clause.
Part G2 Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues		
G2.2 Installation of appliances	Not applicable	
G2.3 Open fireplaces	Not applicable	
G2.4 Incinerator rooms	Not applicable	
Part G3 Atrium Construction		

BCA DEEMED-TO-SATISFY PROVISION	COMPLIES/ DOES NOT COMPLY/ OTHER	COMMENTS
G3.1 Application of Part	Not applicable	
Part G4 Construction in Alpine Areas		
G4.1 Application of Part	Not applicable	
Part G5 Construction in Bushfire Prone Areas		
NSW G5.1 Application of Part	Not applicable	
Part G6 Occupiable outdoor areas		
G6.1 Application of Part	Not applicable	

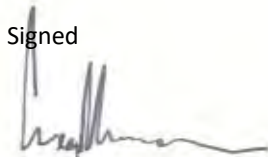
E. CONCLUSION

This report provided a Building Code of Australia (BCA) compliance assessment of the proposed alterations and additions to the existing Insitu bar and restaurant within the existing multi-storey mixed use commercial and residential building at 18 Sydney Road, Manly.

The purpose of this report was to identify the non-compliance matters contained in the proposed design (proposed new works) against the current DTS Provisions of the BCA Volume One and to provide recommendations to overcome the DTS non-compliances.

If you require any further information, please contact the undersigned.

Signed



Greg Murrow

Director – Murrow Consulting Pty Ltd

Grad Dip Build Surv, Dip Access Consulting

AIBS National Accredited Level 1 Building Surveyor

NSW Fair Trading Registered Unrestricted Building Surveyor

ANNEXURE 1 – BCA SPECIFICATION C1.1 & TYPE A CONSTRUCTION REQUIREMENTS

2. General Requirements

2.1 Exposure to fire-source features

- (a) A part of a building element is exposed to a *fire-source feature* if any of the horizontal straight lines between that part and the *fire-source feature*, or vertical projection of the feature, is not obstructed by another part of the building that—
 - (i) has an FRL of not less than 30/—/—; and
 - (ii) is neither transparent nor translucent.
- (b) A part of a building element is not exposed to a *fire-source feature* if the *fire-source feature* is—
 - (i) an *external wall* of another building that stands on the allotment and the part concerned is more than 15 m above the highest part of that *external wall*; or
 - (ii) a side or rear boundary of the allotment and the part concerned is below the level of the finished ground at every relevant part of the boundary concerned.
- (c) If various distances apply for different parts of a building element—
 - (i) the entire element must have the FRL applicable to that part having the least distance between itself and the relevant *fire-source feature*; or
 - (ii) each part of the element must have the FRL applicable according to its individual distance from the relevant *fire-source feature*,
but this provision does not override or permit any exemption from [Clause 2.2](#).

2.2 Fire protection for a support of another part

- (a) Where a part of a building *required* to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part, subject to (b), must—
 - (i) have an FRL not less than that *required* by other provisions of this Specification; and
 - (ii) if located within the same *fire compartment* as the part it supports have an FRL in respect of *structural adequacy* the greater of that *required*—
 - (A) for the supporting part itself; and
 - (B) for the part it supports; and
 - (iii) be *non-combustible*—
 - (A) if *required* by other provisions of this Specification; or
 - (B) if the part it supports is *required* to be *non-combustible*.
- (b) The following building elements need not comply with (a)(ii) and (a)(iii)(B):
 - (i) An element providing lateral support to an *external wall* complying with [Clause 5.1\(b\)](#) or [C1.11](#).
 - (ii) An element providing support within a *carpark* and complying with [Clause 3.9](#), [4.2](#) or [5.2](#).
 - (iii) A roof providing lateral support in a building—
 - (A) of Type A construction if it complies with [Clause 3.5\(a\)](#), (b) or (d); and
 - (B) of Type B and C construction.
 - (iv) A column providing lateral support to a wall where the column complies with [Clause 2.5\(a\)](#) and (b).

- (v) An element providing lateral support to a *fire wall* or *fire-resisting* wall, provided the wall is supported on both sides and failure of the element on one side does not affect the fire performance of the wall.

2.3 Lintels

A lintel must have the FRL *required* for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire *window* or fire shutter, and—

- (a) it spans an opening in—
 - (i) a wall of a building containing only one *storey*; or
 - (ii) a non-*loadbearing* wall of a Class 2 or 3 building; or
- (b) it spans an opening in masonry which is not more than 150 mm thick and—
 - (i) not more than 3 m wide if the masonry is non-*loadbearing*; or
 - (ii) not more than 1.8 m wide if the masonry is *loadbearing* and part of a solid wall or one of the leaves of a cavity wall.

2.4 Method of attachment not to reduce the fire-resistance of building elements

The method of attaching or installing a finish, lining, *ancillary element* or service installation to the building element must not reduce the fire-resistance of that element to below that *required*.

2.5 General concessions

- (a) **Steel columns** — A steel column, other than one in a *fire wall* or *common wall*, need not have an FRL in a building that contains—
 - (i) only 1 *storey*; or
 - (ii) 2 *storeys* in some of its parts and 1 *storey* only in its remaining parts if the sum of the *floor areas* of the upper *storeys* of its 2 *storey* parts does not exceed the lesser of—
 - (A) 1/8 of the sum of the *floor areas* of the 1 *storey* parts; or
 - (B) in the case of a building to which one of the maximum *floor areas* specified in Table C2.2 is applicable — 1/10 of that area; or
 - (C) in the case of a building to which two or more of the maximum *floor areas* specified in Table C2.2 is applicable — 1/10 of the lesser of those areas.
- (b) **Timber columns** — A timber column may be used in a single *storey* building if—
 - (i) in a *fire wall* or *common wall* the column has an FRL not less than that listed in the appropriate Table 3, 4 or 5; and
 - (ii) in any other case where the column is *required* to have an FRL in accordance with Table 3, 4 or 5, it has an FRL of not less than 30/—/—.
- (c) **Structures on roofs** — A *non-combustible* structure situated on a roof need not comply with the other provisions of this Specification if it only contains—
 - (i) lift motor equipment; or
 - (ii) one or more of the following:
 - (A) Hot water or other water tanks.
 - (B) Ventilating ductwork, ventilating fans and their motors.
 - (C) Air-conditioning chillers.
 - (D) *Window* cleaning equipment.
 - (E) Other service units that are *non-combustible* and do not contain flammable or combustible liquids or gases.

(e) * * * * *

(f) **Balconies and verandahs** — A balcony, verandah or the like and any incorporated supporting part, which is attached to or forms part of a building, need not comply with [Tables 3, 4 and 5](#) if—

(i) it does not form part of the only path of travel to a [required exit](#) from the building; and

(ii) in Type A construction—

(A) it is situated not more than 2 [storeys](#) above the lowest [storey](#) providing direct egress to a road or [open space](#); and

(B) any supporting columns are of [non-combustible](#) construction.

2.7 Enclosure of shafts

[Shafts required](#) to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that [required](#) for the walls of a non-[loadbearing shaft](#) in the same building, except that these provisions need not apply to—

(a) the top of a [shaft](#) extending beyond the roof covering, other than one enclosing a [fire-isolated stairway](#) or [ramp](#); or

(b) the bottom of a [shaft](#) if it is [non-combustible](#) and laid directly on the ground.

3. Type A Fire-Resisting Construction

3.1 Fire-resistance of building elements

In a building [required](#) to be of Type A construction—

(a) each building element listed in [Table 3](#) and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and

(b) * * * * *

(c) any [internal wall required](#) to have an FRL with respect to [integrity](#) and [insulation](#) must extend to—

(i) the underside of the floor next above; or

(ii) the underside of a roof complying with [Table 3](#); or

(iii) if under [Clause 3.5](#) the roof is not [required](#) to comply with [Table 3](#), the underside of the [non-combustible](#) roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or [sarking-type material](#), must not be crossed by timber or other [combustible](#) building elements; or

(iv) a ceiling that is immediately below the roof and has a [resistance to the incipient spread of fire](#) to the roof space between the ceiling and the roof of not less than 60 minutes; and

(d) a [loadbearing internal wall](#) and a [loadbearing fire wall](#) (including those that are part of a [loadbearing shaft](#)) must be constructed from—

(i) concrete; or

(ii) masonry; or

(iii) [fire-protected timber](#), provided that—

(A) the building is—

(aa) a separate building; or

(bb) a part of a building—

(AA) which only occupies part of a [storey](#), and is separated from the remaining part by a [fire wall](#); or

- (BB) which is located above or below a part not containing *fire-protected timber* and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a *fire wall* for the lower *storey*; and
- (B) the building has an *effective height* of not more than 25 m; and
- (C) the building has a sprinkler system (other than a FPAA101D or FPAA101H system) throughout complying with *Specification E1.5*; and
- (D) any insulation installed in the cavity of the timber building element *required* to have an FRL is *non-combustible*; and
- (E) cavity barriers are provided in accordance with *Specification C1.13*; or
- (iv) any combination of (i) to (iii); and
- (e) * * * * *
- (f) the FRLs specified in *Table 3* for an external column apply also to those parts of an internal column that face and are within 1.5 m of a *window* and are exposed through that *window* to a *fire-source feature*.

Table 3 Type A construction: FRL of building elements

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

Building element	Class of building — FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

3.2 Concessions for floors

A floor need not comply with Table 3 if—

- (a) it is laid directly on the ground; or
- (b) in a Class 2, 3, 5 or 9 building, the space below is not a *storey*, does not accommodate motor vehicles, is not a storage or work area, and is not used for any other ancillary purpose; or
- (c) it is a timber *stage* floor in a Class 9b building laid over a floor having the *required* FRL and the space below the *stage* is not used as a dressing room, store room, or the like; or
- (d) it is within a *sole-occupancy unit* in a Class 2 or 3 building or Class 4 part of a building; or
- (e) it is an open-access floor (for the accommodation of electrical and electronic services and the like) above a floor with the *required* FRL.

3.3 Floor loading of Class 5 and 9b buildings: Concession

If a floor in a Class 5 or 9b building is designed for a live load not exceeding 3 kPa—

- (a) the floor next above (including floor beams) may have an FRL of 90/90/90; or
- (b) the roof, if that is next above (including roof beams) may have an FRL of 90/60/30.

3.4 Roof superimposed on concrete slab: Concession

A roof superimposed on a concrete slab roof need not comply with Clause 3.1 as to *fire-resisting construction* if—

- (a) the superimposed roof and any construction between it and the concrete slab roof are *non-combustible* throughout; and
- (b) the concrete slab roof complies with Table 3.

3.5 Roof: Concession

A roof need not comply with Table 3 if its covering is *non-combustible* and the building—

- (a) has a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 installed throughout; or
- (b) has a *rise in storeys* of 3 or less; or
- (c) is of Class 2 or 3; or
- (d) has an *effective height* of not more than 25 m and the ceiling immediately below the roof has a *resistance to the incipient spread of fire* to the roof space of not less than 60 minutes.

3.6 Roof lights

If a roof is *required* to have an FRL or its covering is *required* to be *non-combustible*, roof lights or the like installed in that roof must—

- (a) have an aggregate area of not more than 20% of the roof surface; and
- (b) be not less than 3 m 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 that part has the FRL *required* of a *fire wall* and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C3.4; and
 - (iii) any roof light or the like in an adjoining *sole-occupancy unit* if the walls bounding the unit are *required* to have an FRL; and

- (iv) any roof light or the like in an adjoining fire-separated section of the building; and
- (c) if a ceiling with a *resistance to the incipient spread of fire* is *required*, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.

3.7 Internal columns and walls: Concession

For a building with an *effective height* of not more than 25 m and having a roof without an FRL in accordance with [Clause 3.5](#), in the *storey* immediately below that roof, internal columns other than those referred to in [Clause 3.1\(f\)](#) and *internal walls* other than *fire walls* and *shaft walls* may have—

- (a) in a Class 2 or 3 building: FRL 60/60/60; or
- (b) in a Class 5, 6, 7, 8 or 9 building—
 - (i) with *rise in storeys* exceeding 3: FRL 60/60/60; or
 - (ii) with *rise in storeys* not exceeding 3: no FRL.