



BUILDING CODE OF AUSTRALIA FIRE SAFETY REPORT

(NCC 2019 Edition – Amendment 1)

7 RAGLAN STREET, MANLY – STRATA PLAN 67753



Fire Safety Report	0	Fire Order	Erol Urludag / 29/11/2020	
DOC. NAME	REV.	DESCRIPTION	PREPARED / DATE	SIGNED

INTRODUCTION

1.0 EXECUTIVE SUMMARY

The following fire safety report has been prepared on behalf of The Owners Corporation of Strata Plan 67753.

The objective of this report is to prepare a suitable fire upgrading strategy to improve the building's current fire safety provisions. In order to determine an appropriate upgrading strategy and as required by Northern Beaches Council's Notice of Intention to give a Fire Order dated 19 August 2020, the existing building's facilities, services and use has been compared against current NCC/BCA "deemed to satisfy" DTS provisions of the Building Code of Australia (BCA) 2019 Amendment 1 (Sections A-E) and to identify areas of deficiency (where applicable).

This report will recommend upgrading in line with current NCC/BCA "deemed to satisfy" (DTS) requirements where possible, however at the same time this upgrading must be considered reasonable in context of the existing building. Where such an approach is not possible or alternatively the required DTS work is considered unreasonable, the upgrading strategy may be based on satisfying the Performance Requirements of the NCC/BCA 2019 Amendment 1 and ultimately offer an alternative solution approach for upgrading in this respect. For other items, formal dispensations will need to be requested from Council/NSW Fire & Rescue where specific upgrading solution is physically not possible or is considered "unreasonable".

In many respects, where alternative solutions are proposed, they are based on addressing life safety issues ahead of property protection issues. This approach is typically accepted by Council's in respect to developing suitable fire upgrading strategies for existing buildings.

In our opinion, the recommended upgrading strategy in this report takes into consideration all of the abovementioned facts and recommends practical and balanced solutions. These solutions whilst not satisfying the DTS provisions (in some instances), are intended to satisfy the Performance Requirements and general intent of the NCC/BCA 2019 Amendment 1 as applied to an existing building. Section 9.34 and Part 2 of Schedule 5 of the Environmental Planning & Assessment Act 1979 relates to Fire Orders issued by Councils, which states that "an adequate" level of fire safety must be provided. This clause does not make any specific reference to comply with current BCA DTS requirements- although this will ultimately be recommended and achieved for most items.

It should be recognised by all parties that there will be inherent deficiencies in existing buildings when comparing them against current Building Codes.

1.1 INTRODUCTION

The Owners Corporation of Strata Plan 67753 have commissioned BCA Matters Pty Ltd Trading As Building Code Solutions to prepare a report detailing fire safety upgrade works that will in our opinion provide a satisfactory level of fire safety within the building and satisfy the requirements of Northern Beaches Council's Notice of Intention to issue a Fire Safety Order dated 19 August 2020 under Section 9.34 and Part 2 of Schedule 5 of the Environmental Planning & Assessment Act 1979.

1.2 PURPOSE OF THE REPORT

To inspect the building and report on deficiencies relating to fire safety appropriate to its use and the relevant provisions of Sections A-E of the BCA. Where appropriate, the report will recommend proposed works to satisfy the objectives of the BCA and Council's Fire Order.

The report will detail the works required in our opinion to bring the subject premises to a standard that will improve the safety of persons accommodated in the building in the event of a fire, particularly in relation to egress, the prevention of spread of fire, the detection of fire and the suppression of fire, appropriate to the use and classification of the building.

1.3 LIMITATION AND EXCLUSIONS

The information contained in this report was obtained from visual inspection of the building. The inspection was limited to visible structures, fixtures and fittings in the building without the removal of linings or coverings except where noted and without testing of equipment or systems.

Furthermore this report should not be construed to infer that an assessment for compliance with the following has been undertaken:

- structural adequacy of the building and related matters;
- inaccessible spaces such as ceiling voids, riser shafts, service penetrations (where applicable) etc;
- the Fire Resistance Level (FRL) or Fire Hazard Indices of existing building elements;
- the individual requirements of other service providers i.e. Sydney Water, Energy Australia, etc;
- operating capability of services including electrical, mechanical and hydraulic;
- health and amenity and energy efficiency issues covered in Sections F & J of the BCA;
- access and egress for persons with a disability and including the Disability Discrimination Act (DDA) requirements
- asbestos related matters;
- glazing assemblies within the building; and
- slip resistance of floor materials (ie tiles).

1.4 REPORT BASIS

The content of this report reflects:

- The NCC/Deemed to Satisfy (DTS) provisions of the Building Code of Australia 2019 Amendment 1, and including the NSW Appendix
- An inspection of the building carried out by Mr Erol Urludag on 23rd September 2020 and 24th November 2020.
- Northern Beaches Council's Notice of Intention to issue a Development Control Order dated 19 August 2020.

1.5 STANDARDS ADOPTED BY REFERENCE

Reference to standards of construction will be to the NCC/Building Code of Australia (BCA) 2019 Amendment No 1 and the relevant Australian Standards adopted under Specification A1.3 (as relevant).

Fire Resistance Level (FRL) relates to Structural Adequacy/Integrity/Insulation to building elements in minutes e.g. -/60/30 FRL.

1.6 SITE DESCRIPTION

The existing commercial building is located on the corner of Raglan, Whistler and Short Street's. The building has a rise in storey's of three (3) and has the main street frontage to Raglan Street. An adjoining property occupied by Ausgrid and used as a substation is present to the South.

The existing building appears to have been built circa 1986 to previous Ordinance 70 requirements.

The building is served by a single fire isolated stairway and connects to Raglan Street.

At present, the ground floor is occupied by a café (Dolce Terra) and realestate agency (Red Property). The first and second floor storeys are occupied and used as an educational facility by Navitas.

The existing building is predominantly constructed from external and internal load bearing masonry walls, reinforced concrete floors separating storeys, internal concrete stairway, concrete columns, internal plasterboard walls with glazing and pitched timber frame roof with terracotta tile cladding.

1.7 SUMMARY OF BCA NON COMPLIANCES AND FURTHER INVESTIGATIONS REQUIRED

The following list is a summary of the BCA/NCC non-compliances identified during our inspection. Some items listed below will require further investigations prior to the final scope of works being finalised for the existing building.

BCA Part C – Fire Resistance & Stability

- An accredited fire safety practitioner/ fire door contractor shall inspect all fire stair entry doors and frames and provide an annual fire safety statement, subject to compliance. All glazed panels that are installed to the fire doors must also be assessed for compliance and must not fail by radiation through any glazed part during the period specified for *integrity* in the *required* FRL (ie 60 minutes). Refer to Clause C3.8 of the report.
- Miscellaneous items comprising of pot plants, notice boards etc have been installed within the fire isolated stairway and are required to be removed. The fire isolated stairway must be free of any combustible items. Refer to Clause C3.9 of the report.
- All penetrations throughout the building (electrical, mechanical and plumbing) are required to be inspected by an accredited fire safety practitioner/ passive fire contractor and that any required rectification works are undertaken with associated certification provided. All fire

stopping works must be certified to BCA 2019 Amendment No 1, Specification C3.15, AS4072.1-2005 & AS1530.4-2014. At present fire stopping issues are present. Refer to Clauses C3.12, C3.15 & C3.16 of the report.

BCA Part D – Access & Egress

- Two (2) exits are required on levels 1 and 2 ie from the Navitas tenancy (Class 9b school part). At present levels 1 and 2 only contains a single exit. A performance solution report shall be prepared by an Accredited Fire Safety Engineer. Refer to Clause D1.2 of the report.
- The autosliding door and front main entry door that serves the Red Property tenancy (both being required exits) are spaced less than 9m apart (approximately 2.5m). A performance solution report shall be prepared by an Accredited Fire Safety Engineer. Refer to Clause D1.5 of the report.
- The egress path width behind the counter area within the ground floor café is approximately 740mm in clear width. BCA/NCC requires a minimum clear width of 1m. Considering the minor shortfall and low population numbers expected behind the counter area we make no recommendation for any upgrade. Refer to Clause D1.6 of the report.
- Consistent with the Prescriptive Provisions of the BCA/NCC, the openings to the electrical meter room and including the tenancy sub-boards are required to be lined with non-combustible construction or fire protective covering and smoke-sealed in accordance with Clause D2.7(d) of the BCA. Refer to Clause D2.7 of the report.
- Compliant stair safety treads are required to the fire isolated stairway in accordance with BCA Clauses D2.13 and D2.14.
- A single step is provided at the rear of the ground floor tenancy near the communal wc/storage room. Under the Prescriptive Provisions of the BCA/NCC a second stair riser is required. We make no recommendation for any upgrade. Refer to Clause D2.13 of the report.
- The balustrade/barrier heights to the internal fire isolated stairway and level 2 balconies shall be upgraded. Refer to Clause D2.16 of the report.
- Verification is required that the autosliding door can be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source and open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the *fire compartment* served by the door. Refer to Clause D2.19 of the report.
- Hold open devices are recommended to the final exit doors that serve the café and real estate agency. Refer to Clause D2.20 of the report.
- Compliant door latches (ie D lever type) are required. Doors that are capable of being locked must also fail safe or be provided with lever passage sets. The manual control to the autosliding door shall also be upgraded. Refer to Clause D2.21 of the report.
- Compliant signage is required to fire stair door. Refer to Clause D2.23 of the report.

1.7.3 BCA Part E – Services & Equipment

- A hydraulic consultant shall be engaged to verify that the street hydrant provides compliant coverage to all parts of the building and that a pressure statement is obtained from Sydney Water to verify that adequate flows and pressures are available at the town's main for firefighting operations. Refer to Clause E1.3 of the report.

- A hydraulic consultant shall be engaged to verify if a fire hose reel system is required to serve the building. Refer to Clause E1.4 of the report.
- An accredited fire safety practitioner shall be engaged to assess compliance of the installed portable fire extinguishers. Refer to Clause E1.6 of the report.
- Compliant smoke hazard management is not provided (smoke detection system). Refer to BCA Specification E2.2a of the report.
- Additional emergency lighting is required throughout the building. Refer to Clauses E4.2-E4.4 of the report.
- All exits signs shall be reviewed for compliance in regards to correct locations. Additional exit signs may be required within the Navitas tenancy. Refer to Clause E4.5-E4.8 of the report.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART A1 - INTERPRETING THE NCC				
Interpreting the NCC	A1.0	Noted.	DTS	Noted. No recommendations.
BCA PART A2 - COMPLIANCE WITH THE NCC				
Compliance with the NCC	A2.0 – A2.4	Noted.	DTS	Noted. No recommendations.
BCA PART A3 - APPLICATION OF THE NCC IN STATES AND TERRITORIES				
State and Territory Compliance	A3.0	Noted.	DTS	Noted. No recommendations.
BCA PART A4 - NCC REFERENCED DOCUMENTS				
NCC Referenced Documents	A4.0 – A4.2	Noted.	DTS	Noted. No recommendations.
BCA PART A5 - DOCUMENTATION OF DESIGN AND CONSTRUCTION				
Documentation of Design and Construction	A5.0 – A5.7	Noted.	DTS	Noted.
BCA PART A6 - BUILDING CLASSIFICATION				
Determining a Building Classification	A6.0 – A6.11	BCA building classifications.	DTS	Class 6 (Ground Floor Storey): Café and Real Estate tenancies Class 9b (First & Second Floor Storey's): Educational Facility
BCA PART A7 - UNITED BUILDINGS				
When Buildings are United	A7.0	BCA provisions applicable to buildings connected through openings in the external walls dividing them.	---	Not applicable.
Alterations in a United Building	A7.1	BCA requirements where buildings cease to be united buildings.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART B1 - STRUCTURAL PROVISIONS – NOT ASSESSED UNDER THIS REPORT				
BCA PART C1 - FIRE RESISTANCE & STABILITY				
Deemed to Satisfy Provisions	C1.0	Specifies DTS means to satisfy Performance Requirements CP1 to CP9.	DTS	Noted. No recommendations.
Type of Construction Required	C1.1 Table C1.1	This Clause stipulates the "Type of Construction" required based on a buildings "Rise in Storeys". See also Clause C2.2 regarding maximum floor area limitation requirements.	DTS	Type A Construction is required based on the building having a rise in storeys of three (3) and the top floor storey being used as an Educational Facility. The principal implication of Type A Construction is that all building elements consisting of external walls, columns, beams and floors separating storey's must be suitably fire rated to resist fire spread between storeys. Type A Construction is the most fire resistant type of construction under the NCC/BCA.
Calculation of Rise in Storeys	C1.2	This Clause stipulates how you calculate a buildings "rise in storeys".	DTS	The building has a rise in storeys of three (3).
Buildings of Multiple Classification	C1.3	In a building of multiple classifications, the Type of Construction required for the building is the most fire resisting type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys.	DTS	Noted. Type A Construction is required as the Classification on level 2 is Class 9b.
Mixed Types of Construction	C1.4	Allows mixed types of construction if parts are fire separated.	---	Not applicable.
Two Storey Class 2, 3 or 9c Buildings	C1.5	Gives concession for construction of certain residential buildings.	---	Not applicable.
Class 4 Parts of Building	C1.6	Specified FRLs and separation for Class 4 parts.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Open Spectator Stands and Indoor Sports Stadiums	C1.7	Requirement for construction of spectator stands and stadiums.	---	Not applicable.
Lightweight Construction	C1.8	This Clause stipulates that "lightweight" construction must comply with Specification C1.8 if used.	DTS	New Building Works to Comply. Lightweight construction is to comply with Specification C1.8 of the BCA if it is used in a wall system – i) that is required to have an FRL ; or ii) for a lift shaft, stair shaft or service shaft, or an external wall bounding a public corridor. Full documentation (including fire test certification) is to be provided by the installation contractor at the completion of any fire safety upgrade works.
Non-combustible Building Elements	C1.9	The Clause outlines where non-combustible materials are to be used in buildings.	DTS	Complies Appears to comply based on visual inspection of the building.
Fire Hazard Properties	C1.10	Clause C1.10 requires materials and assemblies to comply with Fire Hazard Properties as outlined in Specification C1.10.	DTS	Early fire hazard indices of internal fittings and finishes (e.g. carpets, timber flooring, wall and ceiling linings) were not examined under this report within the common areas and individual tenancies. If carpets or other surface linings are to be replaced as part of future renovation works or tenancy fitouts, attention must be given to fire hazard properties when selecting the materials in accordance with the requirements of Clause C1.10 and Specification C1.10 of the Building Code of Australia.

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Performance of External Walls in Fire	C1.11	Requirements for tilt up walls and fixings.	---	Not applicable.
---	C1.12	This clause has been deliberately left blank in the BCA.	---	---
Fire-protected timber: Concession	C1.13	The clause outlines concessions for fire - protected timber in Class 2, 3 and 5 buildings.	---	Not applicable.
Ancillary Elements	C1.14	The Clause outlines permitted ancillary elements that may be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible.	DTS	Complies Appears to comply based on visual inspection of the building.
BCA PART C2 - COMPARTMENTATION & SEPARATION				
Deemed to Satisfy Provisions	C2.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the deemed to satisfy provisions are met.	DTS	Noted.
Application of Part	C2.1	1) Clauses C2.2, C2.3 and C2.4 do not apply to a carpark provided with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5, an open-deck carpark or an open spectator stand. 2) Clause C2.12(a)(v) does not apply to a Class 8 electricity network substation.	DTS	Noted
General Floor Area & Volume Limitations	C2.2	This Clause stipulates the maximum floor areas and volumes for all classes of buildings and for each type of construction.	DTS	Complies The floor area and volume limitations comply with Type A Construction for all classifications and tenancies. The BCA/NCC prescribes the following floor areas and volumes:

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				Class 6 – maximum floor area – 5000m ² and maximum volume of 30000m ³ . Class 9b – maximum floor area – 8000m ² and maximum volume of 48000m ³ .
Large Isolated Buildings	C2.3	Fire compartments can exceed specified areas and volumes under certain open space, fire protection and vehicular access conditions.	---	Not applicable.
Requirements for Open Spaces & Vehicular Access	C2.4	Conditions applying to vehicular access are required by Clause C2.3.	---	Not applicable.
Class 9a & Class 9c Buildings	C2.5	Additional fire and smoke compartmentation that is required for Class 9a Healthcare and 9c Aged Care buildings.	---	Not applicable.
Vertical Separation of Openings in External Walls	C2.6	This Clause stipulates how vertical separation can be achieved for buildings of Type A Construction.	DTS	Complies based on visual inspection of the building Spandrel separation is required to be provided in buildings of Type A construction where any window or door opening (or other) in an external wall is above another opening (in the storey next below) and its vertical projection falls no further than 450mm outside the lower opening. Spandrels must be provided as follows: A) Vertical Spandrels: i) Not less than 900 mm in height; and ii) Extend not less than 600 mm above the upper surface of the intervening floor; and iii) Be of <i>non-combustible</i> material having an FRL of not less than 60/60/60. B) Horizontal Spandrels:

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				A reinforced concrete slab or other horizontal construction that- i) projects outwards from the external face of the wall not less than 1100 mm; and ii) extends along the wall not less than 450 mm beyond the opening concerned; and iii) is <i>non-combustible</i> and has an FRL of not less than 60/60/60. The intent of this clause is to minimise the risk of fire spreading from one floor to another via openings in external walls in buildings of Type A construction. Inspection of the building has revealed that compliant spandrel separation appears to be provided throughout all building elevations.
Separation by Fire Walls	C2.7	This clause stipulates how you achieve fire separation	---	Not applicable.
Separation of Classifications in the Same Storey	C2.8	This clause stipulates how you can treat different classifications in the same storey	DTS	Further Investigations are Required The internal walls that bound the fire isolated stairway at ground floor level require to be fire separated from the Class 6 retail parts with construction having an FRL of not less than 180/120/120. <i>The fire resistance levels and structural integrity of the walls are beyond the scope of this Fire Safety & BCA assessment report.</i> Refer to Clauses C3.12 & C3.15 in regards to fire stopping.
Separation of Classifications in Different Storeys	C2.9	This Clause stipulates how you fire separate classifications in different storeys.	DTS	Complies A concrete slab is provided between the ground floor retail tenancies and the first floor

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				storey. A concrete slab is also provided between levels 1 and 2. <i>The fire resistance levels and structural integrity of the walls are beyond the scope of this Fire Safety & BCA assessment report.</i> Refer to additional comments in Clause C3.12 and C3.15 below.
Separation of Lift Shafts	C2.10	Lift shafts are required in Specification C1.1 (Type A Construction) to achieve an FRL as stated where lifts are not wholly within an atrium.	---	Not applicable.
Stairways & Lifts in One Shaft	C2.11	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	---	Not applicable.
Separation of Equipment	C2.12	Certain equipment (lift motors, lift control panels, emergency generators, central smoke control plant, boilers, and batteries) must be separated from the remainder of the building with construction achieving an FRL of not less than 120/120/120.	DTS	Noted
Electricity Supply System	C2.13	Certain electricity supply equipment must be protected with construction of not less than 120/120/120 FRL. Equipment includes: ▪ Electricity substations. ▪ Main switchboards "which sustain emergency equipment operating in emergency mode". ▪ Electricity conductors that supply main switchboard. ▪ Switchboards must also be segregated (where applicable)	DTS	Noted

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Public Corridors in Class 2 & 3 Buildings	C2.14	In a Class 2 or 3 building a public corridor, if more than 40 metres in length must be divided at intervals of not more than 40 metres with smoke proof walls complying with Clause 2 of Specification C2.5.	---	Not applicable.
BCA PART C3 - PROTECTION OF OPENINGS				
Deemed to Satisfy Provisions	C3.0	This Clause stipulates that the proposed development complies with BCA Section C Performance Requirements if the DTS provisions are met.	DTS	Noted. No recommendations.
Application of Part	C3.1	Exempts openings such as control joints, weep holes, non-combustible ventilators for sub floor or cavity ventilation, etc, are exempted from protection requirements.	DTS	Noted. No recommendations.
Protection of Openings in External Walls	C3.2	This Clause stipulates that openings less than 3 m from a side or rear boundary or 6 m from the far boundary of a road must be protected.	---	Not applicable.
Separation of External Walls and Associated Openings in Different Fire Compartments	C3.3	Separation required between external openings in different fire compartments.	---	Not applicable.
Acceptable Methods of Protection	C3.4	Acceptable methods of protecting openings in external walls.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Doorways in Fire Walls	C3.5	This stipulates how doorways in fire walls are to be constructed.	---	Not applicable.
Sliding Fire Doors	C3.6	Installation requirements for sliding fire doors.	---	Not applicable.
Protection of Doorways in Horizontal Exits	C3.7	This stipulates how horizontal exits are to be protected.	---	Not applicable.
Openings in Fire Isolated Exits	C3.8	Construction details of doorways leading into fire isolated exits.	DTS	In buildings of this type, the BCA requires that a doorway that opens directly into a fire-isolated stairway is required to be protected with self-closing, --/60/30 FRL fire doors in accordance with AS 1905.1-2015. Fire door frames achieving an FRL of not less than 60/60/60 is also required. Inspection of the building has revealed that fire door sets are installed to the fire-isolated stairway. Refer to photos below. 

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 We recommend that an accredited fire safety practitioner/ fire door contractor inspects all fire stair entry doors and frames and provides an annual fire safety statement, subject to compliance. All glazed panels that are installed to the fire doors must also be assessed for compliance and must not fail by radiation through any glazed part during the period specified for <i>integrity</i> in the <i>required</i> FRL (ie 60 minutes). Any non-compliance identified after the detailed audit will require rectification to the installed fire doors. Note any original doors installed in the building may contain asbestos. Any works required to the original fire doors that contain asbestos will require replacement with a new fire door as WorkCover will not permit rectification works on existing asbestos doors. Where new fire doors are required, compliance shall be in accordance with AS1905.1-2015 & BCA Specification C3.4.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Service Penetrations in Fire Isolated Exits	C3.9	Services shall not be installed in fire isolated exits, except as permitted in this Clause.	DTS	In buildings of this type, the BCA requires that a fire isolated stairway must not be penetrated by any services other than: i/ electrical wiring associated only with lighting, detection, security, surveillance or management systems within the exit or for monitoring of hydrant valves; and ii/ water supply pipes for fire services. Inspection of the building has revealed that compliance is generally achieved however our inspection did reveal miscellaneous items comprising of pot plants, notice boards etc have been installed within the fire isolated stairway. The fire isolated stairway must be free of any combustible items. It is recommended that all combustible items within the fire isolated stairway are removed.
Openings in Fire Isolated Lift Shafts	C3.10	Construction details of doorways leading into fire isolated lift shafts and construction of lift indicator panels.	---	Not applicable.
Bounding Construction Class 2, 3, & 4 Buildings	C3.11	Stipulates how to protect openings in bounding construction (residential building / parts).	---	Not applicable.
Openings in Floors & Ceilings for Services	C3.12	Services where passing through fire rated floors and/or walls shall be suitably protected to maintain the FRL of the building element(s) either by the introduction of fire rated shafts and/ or fire stopping / sealing at the penetration.	DTS	Further Investigations are required. The objective of the NCC/BCA is to prevent fire spread between floors via plumbing, electrical or mechanical penetrations. Cast iron, metal and copper pipes are deemed to comply with the NCC/BCA if the pipes are sealed correctly at the slab soffit. PVC pipes require fire collars to prevent the spread of fire to the floor above.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				The building appears to contain copper and PVC pipes throughout. Inspection of the concrete slab on level 1 has revealed that the copper pipes have not been sealed correctly at the slab soffit. Refer to photos below. 

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 Fire dampers are required to any vertical mechanical exhaust ducts that penetrate the concrete slab(s). The annual fire safety statement for the building indicates that fire dampers are installed.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 The photo above shows the pipe penetration to the slab soffit within the ground floor realestate agent tenancy. We recommend that all penetrations throughout the building (electrical, mechanical and plumbing) are inspected by an accredited fire safety practitioner/ passive fire contractor and that any required rectification works are undertaken with associated certification provided. All fire stopping works must be certified to BCA 2019 Amendment No 1, Specification C3.15, AS4072.1-2005 & AS1530.4-2014. Note the walls bounding the fire stair and adjoining tenancies on the ground floor storey shall also be assessed for BCA/NCC compliance.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Openings in Shafts	C3.13	Any openings into fire rated service shafts shall be protected in accordance with this Clause.	DTS	Further Investigations are required.
---	C3.14	This clause has been deliberately left blank in the BCA.	---	---
Openings for Service Installations	C3.15	Services where passing through fire rated floor or walls shall be suitably protected to maintain the FRL of the building element(s).	DTS	Further Investigations are required. Refer to comments above in clause C3.12.
Construction Joints	C3.16	Construction joints shall achieve the same FRL as the building component in which it is installed.	DTS	Further Investigations are required. Refer to comments above in clause C3.12.
Columns Protected with Lightweight Construction to achieve an FRL	C3.17	Any column protected with lightweight construction should maintain the fire integrity of a building element through which it passes.	---	Not applicable.
PART C - SPECIFICATION C1.1 - FIRE RESISTING CONSTRUCTION				
Exposure to Fire Source Features	Specification C1.1 Clause 2.1	This Clause stipulates when a building element is exposed to a fire source feature.	---	Not applicable. Structural adequacy and structural integrity have not been assessed under this report.
Fire Protection for a Support of Another Part	Specification C1.1 Clause 2.2	The structural integrity of any part of a building required to have a particular FRL shall not be reduced or undermined by reason of it being supported by a part of the building that does not have at least the same FRL as the part it supports.	---	Not applicable. Structural adequacy and structural integrity have not been assessed under this report.
Lintels	Specification C1.1 Clause 2.3	Details where lintels over doorways or openings require an FRL.	---	Not applicable. Structural adequacy has not been assessed under this report.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Method of attachment not to reduce the fire-resistance of building elements	Specification C1.1 Clause 2.4	The method of attaching or installing a finish, lining, <i>ancillary element</i> or service installation to the building element must not reduce the fire-resistance of that element to below that <i>required</i> .	---	Not applicable.
General Concessions	Specification C1.1 Clause 2.5	Outlines general FRL concessions that can be applied for various building components.	---	Noted. No recommendations.
Mezzanine Floors Concession	Specification C1.1 Clause 2.6	Stipulates that a mezzanine and its supports do not need to achieve a fire rating provided other measures are adopted.	---	Not applicable.
Enclosure of Shafts	Specification C1.1 Clause 2.7	This Clause stipulates how you enclose various shafts both at the top and the bottom.	DTS	Complies A concrete roof is provided to the fire isolated stairway.
Carparks in Class 2 & 3 Buildings	Specification C1.1 Clause 2.8	This Clause allows for a concession to fire rating to carparks in Class 2 and 3 buildings.	---	Not applicable.
Residential Aged Care Building: Concession	Specification C1.1 Clause 2.9	Allows FRL concessions to sprinklered residential aged care buildings.	---	Not applicable.
Type A Fire Resisting Construction	Specification C1.1 Clause 3.1 – 3.10 & Table 3	This Clause and Table outline the Fire Resistance Levels of various building elements for Type A Construction.	DTS	Further investigations are required. It is assumed that the existing building complies with the fire resistance level requirements for Type A Construction. The fire resistance levels and structural integrity of the building elements are beyond the scope of this Fire Safety & BCA assessment report.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Type B Fire Resisting Construction	Specification C1.1 Clauses 4.1 – 4.3	This Clause and Table outline the FRLs of various buildings elements for Type B construction.	---	Not applicable.
Type C Fire Resisting Construction	Specification C1.1 Clauses 5.1 – 5.2	This Clause and Table outlines the FRLs of various building elements for Type C construction.	---	Not applicable.
PART C - SPECIFICATION C1.8 - STRUCTURE TESTS FOR LIGHTWEIGHT CONSTRUCTION				
Structural Tests for Lightweight Construction	Specification C1.8	This Specification describes the tests to be applied to & criteria to be satisfied by a wall system of lightweight construction that has an FRL.	DTS	New Works to Comply. Lightweight construction is to comply with Specification C1.8 of the BCA if it is used in a wall system during fire safety upgrade works.
PART C - SPECIFICATION C1.10 - FIRE HAZARD PROPERTIES				
Fire Hazard Properties	Specification C1.10	This Specification sets out requirements in relation to the fire hazard properties of materials, linings, & surface finishes in buildings.	DTS	(See Clause C1.10 above).
PART C - SPECIFICATION C1.11 - PERFORMANCE OF EXTERNAL WALLS IN FIRE				
Performance of External Walls in Fire	Specification C1.11	Design considerations for tilt up construction.	---	Not applicable.
PART C - SPECIFICATION C1.13 - CAVITY BARRIERS FOR FIRE-PROTECTED TIMBERS				
Cavity Barriers for Fire-protected Timber	Specification C1.13	This Specification sets out requirements for cavity barriers in <i>fire-protected timber</i> construction.	---	Not applicable.
PART C - SPECIFICATION C2.5 - SMOKE-PROOF WALLS IN HEALTH CARE & AGED CARE				
Smoke Proof-Walls in Health Care & Aged Care Buildings	Specification C2.5	Requirements for smoke-proof walls in Clause 9a and 9c buildings.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
PART C - SPECIFICATION C3.4 - FIRE DOORS, SMOKE DOORS, FIRE WINDOWS, & SHUTTERS				
Fire Doors, Smoke Doors, Fire Windows, & Shutters	Specification C3.4	This Specification sets out the requirements for the construction of fire doors, smoke doors, fire windows, and fire shutters.	DTS	New fire door's if required are to comply with BCA 2019 Amendment No 1, Specification C3.4 and AS1905.1-2015.
PART C - SPECIFICATION C3.15 - PENETRATION OF WALLS, FLOORS, & CEILINGS BY SERVICES				
Penetration of Walls, Floors, & Ceilings by Services	Specification C3.15	This Specification sets out prescribed materials and methods of installation for services that penetrate walls, and floors that are required to have an FRL.	DTS	Refer to comments above in Clauses C3.12 & C3.15.
BCA PART D1 - PROVISION FOR ESCAPE				
Deem to Satisfy Provisions	D1.0	The Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	DTS	Noted. No recommendations.
Application of Part	D1.1	This Clause stipulates that Part D of the BCA does not apply to the internal parts of a sole occupancy unit in a Class 2, 3, or 4 building (or part).	DTS	Noted
Number of Exits Required	D1.2	This Clause outlines the number of exits required from each part of the building.	DTS OR PERFORMANCE SOLUTION REPORT BY ACCREDITED FIRE SAFETY ENGINEER	Does Not Comply. Under the Prescriptive Provisions of the BCA/NCC, two (2) exits are required from each storey serving the Navitas Tenancy (ie Class 9b building parts). At present the Navitas Tenancy has access to one exit only on levels 1 and 2. It is recommended that a performance solution is prepared by an accredited Fire Safety Engineer.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
When Fire Isolated Exits are Required	D1.3	This Clause outlines when fire isolated exits are required in buildings.	DTS	Complies.
Exit Travel Distances	D1.4	Travel distances to exits in various building types.	DTS	Complies. The BCA/NCC requires the following travel distances: (i) no point on a floor must be more than 20 m from an <i>exit</i>, or a point from which travel in different directions to 2 <i>exits</i> is available, in which case the maximum distance to one of those <i>exits</i> must not exceed 40 m; and (ii) in a Class 5 or 6 building, the distance to a single <i>exit</i> serving a <i>storey</i> at the level of access to a road or <i>open space</i> may be increased to 30 m. Inspection of the building has revealed that compliant exit travel distances are provided on each storey and within individual tenancies. Ground Floor – Real Estate Agency (Red Property) – Has access to two separate exits being the fire isolated stair (that is accessed from the rear of the tenancy near the WC'S/store room) and main entry door near reception. Ground Floor – Café Tenancy (Dolce Terra) – Has access to one exit only being the main entry door. Level 1 – Travel distance from the furthest part of the floor (Short Street Side) to the single fire stair is approximately 19m. Level 2 – Travel distance from the furthest part of the floor (Short Street Side) to the single fire stair is approximately 19.9m.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Distances between Alternative Exits	D1.5	Distance between alternative exits to be a maximum of 45 m (Class 2, 3 buildings and Class 9a patient care areas) and 60 m (in all other cases). Exits must not be less than 9m apart.	DTS OR PERFORMANCE SOLUTION REPORT BY ACCREDITED FIRE SAFETY ENGINEER	Does Not Comply The autosliding door and front main entry door that serves the Red Property tenancy (both being required exits) are spaced less than 9m apart (approximately 2.5m)  It is recommended that a performance solution is prepared by an accredited Fire Safety Engineer.
Dimensions of Exits and Paths of Travel to Exits	D1.6	This Clause details clear dimensions and widths of exits.	DTS	Does Not Comply In buildings of this type, all exits and paths of travel to the buildings exits are to achieve a minimum unobstructed height of not less than 2.0 metres (except the height of a doorway may be reduced to not less than 1980 mm) with a minimum unobstructed width of not less than 1000 mm. The final exit doors that open to the road or open space and including the doors in the path of travel to an exit can be reduced to 750mm in clear width.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				Our inspection has revealed the following: 1) The egress path width behind the counter area within the ground floor café is approximately 740mm in clear width. Considering the minor shortfall and low population numbers expected behind the counter area we make no recommendation for any upgrade. 2) The exit widths within the real estate agent tenancy and Navitas tenancy complies. 3) All doors within the Navitas tenancy and including the real estate agent tenancy have door widths of greater than 750mm in clear width and heights of greater than 1980mm. 4) The autosliding door at ground floor level and the fire stair doors have compliant clearances and heights. Student and staff numbers are required within the Navitas tenancy on levels 1 and 2 to determine if sufficient aggregate exit widths are provided.
Travel via Fire Isolated Exits	D1.7	This Clause details connection into and discharge from fire isolated stairs / passageways.	DTS	Complies.
External Stairways or Ramps in Lieu of Fire Isolated Exits	D1.8	Use of an external stair or ramp instead of a fire isolated stair.	---	Not applicable.
Travel by Non Fire Isolated Stairways or Ramps	D1.9	This Clause outlines how you can utilise an open stair for egress.	---	Not applicable.
Discharge from Exits	D1.10	Clear width and disposition of exit discharges.	DTS	Complies.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Horizontal Exits	D1.11	Use and construction of horizontal exits.	---	Not applicable.
Non-Required Stairways, Ramps or Escalators	D1.12	Non required stairways, ramps and escalators use and permissible storeys connected.	---	Not applicable.
Number of Persons Accommodated	D1.13	Calculation of the number of occupants in each part of a building based on floor area.	DTS	Student and staff numbers are required within the Navitas tenancy on levels 1 and 2 to determine if sufficient aggregate exit widths are provided.
Measurement of Distances	D1.14	Details how distances are measured in relation to egress design.	DTS	Noted.
Method of Measurement	D1.15	Details how distances are measured in relation to egress design.	DTS	Noted.
Plant Rooms and Lift Motor Rooms: Concession	D1.16	Egress dispensations in relation to Plant Rooms and Lift Motor Rooms.	DTS	A ladder is provided on level 2 to access the roof top external plant area. The existing ladder has not been assessed for compliance with AS1657 under this report.
Access to Lift Pits	D1.17	Access requirements to lift pits.	---	Not applicable.
Egress from Early Childhood Centres	D1.18	Early Childhood Centres are to be located wholly within a storey that provides direct egress to a road or open space. Excludes Early Childhood Centres containing not more than two (2) storey where the Class 9b Early Childhood Centre is the only use in the building.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART D2 - CONSTRUCTION OF EXITS				
Deem to Satisfy	D2.0	This Clause stipulates that the proposed development complies with Section D Performance Requirements of the BCA if the deem to satisfy provisions are met.	DTS	Noted. No recommendations.
Application of Part	D2.1	Except for Clauses D2.13, D2.14(a), D2.16, D2.17(d), D2.17(e), D2.18 and D2.24, the deemed-to-satisfy Provisions of this Part do not apply to the internal parts of a sole-occupancy unit in a Class 2 building or Class 4 part of a building.	DTS	Noted.
Fire Isolated Stairways & Ramps	D2.2	Structural design of fire isolated stair shafts.	DTS	Complies Structural compliance has not been assessed under this report. The fire isolated stairway is of concrete construction and meets the requirements of the BCA/NCC.
Non Fire Isolated Stairways & Ramps	D2.3	This Clause stipulates how you must construct required open stairs where the rise in storeys of the building exceeds 2.	---	Not applicable.
Separation of Rising & Descending Stair Flights	D2.4	Fire isolated stairways must not connect storeys both above and below street level.	---	Not applicable.
Open Access Ramps & Balconies	D2.5	Construction of open access ramps and balconies in lieu of pressurised stairs.	---	Not applicable.
Smoke Lobbies	D2.6	Construction of smoke lobbies required by D1.7.	---	Not applicable.
Installations in Exits & Paths of Travel	D2.7	Outlines where service installations can be accessed and suitable separation to be incorporated.	DTS	Does Not Comply. Consistent with the Prescriptive Provisions of the BCA/NCC, the main electrical meter room and including the tenancy sub-boards

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				are required to be lined with non-combustible construction or fire protective covering and smoke-sealed in accordance with Clause D2.7(d) of the BCA.
Enclosure of Space Under Stairs & Ramps	D2.8	This Clause highlights how you can store under an open stair. Storage under fire isolated stairs is not permissible.	---	Not applicable.
Width of Required Stairways and Ramps	D2.9	This Clause stipulates how stair widths and heights are measured.	---	Not applicable.
Pedestrian Ramps	D2.10	Stipulates how a pedestrian ramp can serve as a required exit.	---	Not applicable.
Fire-Isolated Passageways	D2.11	Fire isolated passageways to have an FRL of 60/60/60 or that of the fire isolated stair from which is extends.	---	Not applicable.
Roof as Open Space	D2.12	If the roof is considered "open space" then the slab must have an FRL of 120/120/120, and rooflights and the like must be located not less than 3 m from path of travel.	---	Not applicable.
Goings & Risers	D2.13	This Clause stipulates construction of stair treads and risers.	DTS	Does Not Comply The BCA requires the following for the stair riser and goings: Stair Riser (R) – Minimum 115mm and Maximum 190mm in height. Stair Going (G) - Minimum 250mm & Maximum 355mm Quantity (2R+G) - Minimum 550mm & Maximum 700mm Goings and risers throughout each flight are considered constant if the variation between (a) Adjacent risers or between adjacent goings, is no greater than 5mm; and

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				(b) The largest and smallest riser within a flight, or the largest and smallest going within a flight does not exceed 10mm. The following measurements were obtained during our audit: <u>Fire Isolated Stairway</u> Goings -270mm complies Risers – 165mm - Complies Consistent with the Prescriptive Provisions of the BCA/NCC, all stair flights are to be provided with a non-slip finish in accordance with Clause D2.13 of the BCA. A luminance contrast of not less than 30% is required for the stair treads. The treads shall have a minimum width of not less than 50mm and not more than 75mm. A slip resistance classification of not less than P3 is required for the internal stairs in accordance with AS4586 and Table D2.14 of the BCA/NCC. The existing stair safety treads within the fire isolated stairway do not appear to comply and requires further assessment. Refer to photo below.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 <u>Single Step</u> A single step is provided at the rear of the ground floor tenancy near the communal wc/storage room. Under the Prescriptive Provisions of the BCA/NCC a second stair riser is required. Considering the single step is located remote from the main tenancy areas, low population numbers expected within this area and the occupants being familiar with the single step, we make no recommendation for any upgrade. It is noted that a luminance contrast strip/safety tread is provide on the single step to further highlight the potential hazard.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				
Landings	D2.14	This Clause stipulates construction of landings.	DTS	It is recommended that non-skid finishes to the stairway landing nosing's are installed in accordance with BCA Clauses D2.13 and D2.14. Refer to comments above in Clause D2.13 above.
Thresholds	D2.15	This Clause stipulates construction of thresholds to doorways.	DTS	Complies

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Barriers to Prevent Falls	D2.16	Details of height and construction of balustrades to voids, stairs, balconies, etc.	DTS	Does Not Comply Consistent with the Prescriptive Provisions of the BCA/NCC, the internal barrier/balustrade to the fire isolated stairway and external balcony areas on level 2 shall be upgraded to comply with the Prescriptive Provisions of the BCA/NCC. The BCA/NCC requires the following: <u>Fire Isolated Stairway</u> A 300 mm sphere must not be able to pass through any opening or where rails are used- a 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the rail and the floor of the landing, balcony or the like and the opening between rails must not be more than 460 mm. A height of 1m is required at the top floor landing and 865mm at the stair flights. Inspection of the fire isolated stairway has revealed the following non compliances: Height at top floor landing – 865mmmm (Does Not comply as 1m is required). Balustrade height at stair flight – 810mm (Does Not comply as 865mm is required). Balustrade opening –exceeds 150mm at the stair tread and top floor landing (currently 400mm at the landing and 310mm at the stair flight)- (does not comply) Refer to photos below.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				In addition to the above the balustrades to the external balcony areas on levels 2 shall also be upgraded. At present the balustrade heights are approximately 860mm above the finished floor levels (BCA/NCC requires a height of not less than 1m). Refer to photo below.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				For floors more than 4 m above the surface beneath any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing  The existing balustrade/barriers shall be upgraded as recommended above.
Handrails	D2.17	Details where handrails need to be incorporated along stairways.	---	Not applicable.
Fixed Platforms, Walkways, Stairways, & Ladders	D2.18	Details compliance with AS 1657 in respect to walkways, stairways and ladders serving machinery rooms, boiler houses, lift motor rooms, plant rooms, and the like.	DTS	A ladder is provided on level 2 to access the roof top external plant area. The existing ladder has not been assessed for compliance with AS1657 under this report.
Doorways & Doors	D2.19	Details how doors serving as required exits are to operate.	DTS	Does Not Comply Consistent with the Prescriptive Provisions of the BCA/NCC, it is recommended that:

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				1) The main entry sliding door providing access to the Navitas tenancy and fire isolated stairway is to be certified by an Accredited Fire Safety Practitioner as complying with Clause D2.19(b)(iv)(A) of the BCA/NCC (ie the sliding door must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source) and 2) The main entry sliding door providing access to the Navitas tenancy and fire isolated stairway is to be interconnected to the buildings proposed automatic fire detection and alarm system in accordance with Clause D2.19(b)(iv)(B) of the BCA. The auto sliding door must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the <i>fire compartment</i> served by the door.
Swinging Doors	D2.20	Swing doors serving as required exits must swing in the direction of travel, unless it serves a building or part less than 200 m ² .	DTS	Does Not Comply The BCA requires that all exit doors in buildings of this type are to swing in the direction of egress from the building. The BCA does provide a concession for smaller tenancies that has a floor area of less than 200m². Inspection of the building has revealed the following: 1) The main entry doors to the realstate agency and café tenancies both swing inwards. It is understood that both tenancies have floor areas of less than 200m² and hence compliance is achieved subject to the doors being fitted with a device for holding it in the open position.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				2) The doors to the fire isolated stair swing inwards at each consecutive storey and hence compliance is achieved. Hold open devices shall be installed to the main entry doors that serve the café and real estate agency tenancies.
Operation of Latch	D2.21	This Clause details hardware / operating requirements for doors in a required exit, forming part of a required exit or in the path of travel to a required exit.	DTS	Does Not Comply. The BCA requires that all exit doors and doors in the path of travel to an exit are to be fitted with single handed action (downward) door hardware positioned at a height of between 900 mm – 1 100 mm above finished floor level. Inspection of the buildings exit doors (including the doors in the path of travel to the buildings exits) has revealed that some doors are fitted with non-compliant hardware (i.e. knob type hardware) that may hinder the safe evacuation of persons from the building in the event of fire or other emergency. In addition, the doors that open onto the balconies on levels 1 and 2 are also required to have compliant latches and must also be capable of being opened from the external balcony side without resorting to a key or alternatively the doors must fail safe in the event of smoke detector activation. Refer to photo below.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 The manual control to the power-operated door must be within 2 m of the doorway and clear of a surface mounted door in the open position. Braille and tactile signage complying with Clause 3 and 6 of Specification D3.6 must identify the latch operation device. The manual control shall be lowered to a height of between 900-1100mm above the finished floor level. At present the manual control is positioned at a height of 1360mm above the finished floor level. It is recommended that all required exit doors and the doors in the path of travel to the buildings exits, are to be fitted with complying lever type door hardware in accordance with Clause D2.21 of the BCA and the external balcony doors shall be fitted with fail safe devices or passage sets.
Re-entry from Fire Isolated Exits	D2.22	Stipulates whether you can lock a fire stair entry door from the inside.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Signs on Doors	D2.23	Appropriate signage is required to exit doors opening to fire isolated passageways, and stairways.	DTS	Does Not Comply 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 a <i>required</i> fire door providing direct access to a fire-isolated exit. The signs are required on the side of the door that faces a person seeking egress and, if the doors are fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door. This also includes the doors leading from a fire isolated exit to a road or open space, on each side of the door. The signs must be in capital letters not less than 20 mm high in a colour contrasting with the background and state— (i) for an <i>automatic</i> door held open by an <i>automatic</i> hold-open device— "FIRE SAFETY DOOR—DO NOT OBSTRUCT"; or (ii) for a <i>self-closing</i> door— "FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN"; or (iii) for a door discharging from a fire-isolated exit— "FIRE SAFETY DOOR—DO NOT OBSTRUCT" (on both sides of the door) It is recommended that compliant signage is installed to the fire stair doors and final exit discharge door. At present no signage is provided to the doors. Refer to photo below.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				 Offences signage is also required within the tenancies next to the fire stair doors (mounted on the wall within the corridor side) in accordance with Clause 183 of the Environmental Planning & Assessment Regulation 2000.
Protection of Openable Windows	D2.24	This Clause requires protection of window opening.	---	Not assessed under this Fire Safety & BCA Assessment Report as it is considered to be a child protection issue and not a fire safety issue. The Strata Scheme's Management Act 2015, Clause 118 requires compliant window safety devices to be installed.
Timber stairways: Concession	D2.25	This Clause provides concessions for fire-isolated stairways and passageways constructed from fire-protected timbers.	---	Not applicable.
BCA PART D3 - ACCESS FOR PEOPLE WITH DISABILITIES (Clauses D3.0 – D3.12 & Clause E3.6 of the BCA) Not Assessed Under this report. Not deemed to be a fire safety related matter				

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART E1 - FIRE FIGHTING EQUIPMENT				
Deemed to Satisfy Provisions	E1.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	DTS	Noted. No recommendations.
---	E1.1	This clause has been deliberately left blank in the BCA.	---	---
---	E1.2	This clause has been deliberately left blank in the BCA.	---	---
Hydrants	E1.3	This Clause stipulates when fire hydrants are required.	DTS	Further Investigations are required Buildings of this type are required to be served by a fire hydrant system in accordance with Clause E1.3 of the BCA and AS 2419.1–2005. Inspection has revealed that a fire hydrant system has not been provided to serve the building in accordance with Clause E1.3 of the BCA. The nearest street hydrant is located next to the café entry door (corner of Raglan & Short Streets). It is recommended that a hydraulic consultant/accredited fire safety practitioner is engaged to assess the street hydrant for compliance ie coverage, flows and pressures in accordance with Clause E1.3 of the BCA and AS 2419.1–2005. Note as the building contains a fire isolated stairway, the technical information sheet provided by Fire Rescue NSW (Reference No: D16/62522 - Version 01 dated 27 February 2020) cannot be used in this instance.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				A pressure statement is also required to be obtained from Sydney Water to determine that adequate flows and pressures are available at the town's main for firefighting operations.
Fire Hose Reels	E1.4	This Clause stipulates when fire hose reels are required.	DTS	Further assessment is required by a hydraulic consultant A fire hose reel system must be provided— 1) to serve the whole building where one or more internal fire hydrants are installed; or (2) where internal fire hydrants are not installed, to serve any <i>fire compartment</i> with a <i>floor area</i> greater than 500m². If required, as a result of internal hydrants being required under Clause E1.3 of the BCA or the floor area of each fire compartment is greater than 500m², the fire hose reel system must comply with AS2441-2005 and each fire hose reel must be located within 4metres of the exit.
Sprinklers	E1.5 & Table E1.5	This Clause stipulates when sprinklers are required.	---	Not applicable
Portable Fire Extinguishers	E1.6 & Table E1.6	This Clause stipulates where extinguishers need to be installed.	DTS	Further Assessment Required Portable fire extinguishers are required and installed throughout the building in accordance with Table E1.6 of the BCA and AS 2444-2001. An accredited fire safety practitioner shall be engaged to undertake a full audit to ensure compliance with Table E1.6 of the BCA and AS 2444-2001.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				A compliance certificate shall be provided subject to compliance.
---	E1.7	This clause has been deliberately left blank in the BCA.	---	---
Fire Control Centres	E1.8	This Clause stipulates when a fire control centre is required.	---	Not applicable.
Fire Precautions during Construction	E1.9	Fire services must be provided and be operational during the construction phase in accordance with Clause E1.9.	---	Not applicable.
Provision for Special Hazards	E1.10	Outlines where special provisions are required certain hazards.	DTS	Not applicable. No known special fire hazards.
BCA PART E1 - SPECIFICATIONS				
Fire Sprinkler Systems	Specification E1.5 & Specification E1.5a	This Specification sets out requirements for the design and installation of fire sprinkler systems.	---	Not applicable.
Fire Control Centres	Specification E1.8	This Specification describes the construction & content of required Fire Control Centres or Rooms.	---	Not applicable.
BCA PART E2 - SMOKE HAZARD MANAGEMENT				
Deemed to Satisfy Provisions	E2.0	This Clause stipulates that the proposed development complies with Section E Performance Requirements of the BCA if the Deemed to Satisfy Provisions are met.	DTS	Noted. No recommendations.
Application of Part	E2.1	Stipulates where Smoke Hazard Management provisions do not apply.	DTS	Noted. No recommendations.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
General Requirements	E2.2, Table E2.2a & E2.2b	Details how compliance is achieved with both Smoke Hazard Management Provisions including treatment of systems that may not be part of the overall Smoke Hazard Management System.	DTS	Does Not Comply As the building has a rise in storeys of three and Class 6 and 9b Classifications, the building must be provided with one of the following— 1) An <i>automatic</i> air pressurisation system for fire-isolated exit in accordance with AS 1668.1; or 2) a zone pressurisation system between vertically separated <i>fire compartments</i> in accordance with AS1668.1, or 3) an <i>automatic</i> smoke detection and alarm system complying with Specification E2.2a; or 4) a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5. We recommend that an automatic fire detection and alarm system is installed in accordance with Clause 4 of BCA Specification E2.2a & AS1670.1-2018. The automatic fire detection and alarm system is not required to be monitored. At present no smoke hazard management is provided within the building. The building occupant warning system must comply with Clause 7 of BCA Specification E2.2a & Clause 3.22 of AS1670.1-2018 to sound through all occupied areas. The smoke detection system must also shut down the air conditioning system in the event of a fire throughout all parts of the building.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
BCA PART E2 - SPECIFICATIONS				
Smoke Detection & Alarm Systems	Specification E2.2a	This Specification outlines the design of various smoke detection and alarm systems.	DTS	Building to Comply. (See Clause E2.2 above)
Smoke Exhaust Systems	Specification E2.2b	This Specification highlights the requirements for mechanical smoke exhaust and zone smoke control systems.	---	Not applicable.
Smoke & Heat Vents	Specification E2.2c	Details use and construction of smoke and heat vents.	---	Not applicable.
BCA PART E3 - LIFT INSTALLATIONS				
Lift Installations	E3.0 – E3.10	These Clauses detail construction and design of lift installations.	---	Not applicable.
BCA PART E4 - VISIBILITY IN AN EMERGENCY, EXIT SIGNS & WARNING SYSTEMS				
Deemed to Satisfy Provisions	E4.0	Specifies DTS means to satisfy performance requirements E4.1 to E4.9.	DTS	Noted. No recommendations.
Emergency Lighting	E4.2 – E4.4	Design and installation requirements for emergency lighting.	DTS	Does Not Comply Buildings of this type are required to be provided with a system of emergency lighting in accordance with Clauses E4.2 and E4.4 of the BCA and AS/NZS 2293.1-2018. Inspection of the building has revealed that additional emergency lighting is required in the tenancies ie along the egress paths, all rooms occupied by staff and students on levels 1 & 2 and the electrical meter room. It is recommended that emergency lighting is provided throughout the building in

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	"Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				accordance with Clauses E4.2 and E4.4 of the BCA and AS/NZS 2293.1-2018. Manual test facilities are required to serve each of the tenancies.
Exit Lighting	E4.5 – E4.8	Design and installation requirements for exit lighting.	DTS	Does Not Comply Buildings of this type are required to be provided with exit signage in accordance with Clauses E4.5, NSW E4.6, E4.8 of the BCA. It is recommended that all exits signs are reviewed for compliance in regards to correct locations. Additional exit signs may be required within the Navitas tenancy.
Early Warning & Intercommunication System (EWIS)	E4.9	This Clause details where an EWIS system is required.	---	Not applicable. This provision only applies if the building has a rise in storeys of more than 3.

Report Prepared by:



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BDC No. 0418 Registered Certifier (Unrestricted)

Existing Fire Safety Measures - 7 Raglan Street, Manly as indicated on the annual fire safety statement

ESSENTIAL FIRE SAFETY MEASURE	STANDARD OF PERFORMANCE
▪ Exit Signs (Illuminated)	Clause E4.5 & AS 2293.1
▪ Emergency Lighting	Clause E4.2 & AS 2293.1
▪ Portable Fire Extinguishers	AS2444, BCA E1.6
▪ Fire Blanket	AS2444
▪ Fire Doors	AS1905.1, BCA C3.8
▪ Fire Dampers	AS1682.1-2015

Proposed Fire Safety Measures - 7 Raglan Street, Manly

ESSENTIAL FIRE SAFETY MEASURE	STANDARD OF PERFORMANCE
▪ Automatic Smoke Detection & Alarm System	BCA 2019 Amendment No 1, Specification E2.2a Clause 4, Clause 7 and AS 1670.1 – 2018.
▪ Fire Hydrant System (if required)	BCA 2019 Amendment No 1 Clause E1.3 & AS2419.1-2005
▪ Fire Hose Reel System (if required)	BCA 2019 Amendment No 1 Clause E1.4 & AS2441- 2005
▪ Fire Stopping/Fire Seals protecting openings in fire resisting construction	BCA 2019 Amendment No 1 Clause C3.12, C3.15, Specification C3.15 & AS4072.1-2005, AS1530.4-2014 (if required after further investigation works).
▪ Exit Signs (Illuminated)	BCA 2019 Amendment No 1 Clause E4.5, NSW E4.6 & E4.8 & AS 2293.1-2018
▪ Portable Fire Extinguishers (if required)	AS 2444-2001 & BCA 2019 Amendment No 1 Clause/ Table E1.6
▪ Fire Doors (if required)	BCA 2019 Amendment No 1, C3.8, AS1905.1-2015 and BCA 2019 Specification C3.4.
▪ Emergency Lighting	BCA 2019 Amendment No 1, Clause E4.2, E4.4 & AS 2293.1-2018
▪ Electrical Meter Room (Smoke seals/ non combustible construction/fire protective covering)	BCA 2019 Amendment No 1, Clause D2.7
▪ Lightweight Construction	BCA 2019 Amendment No 1, Clause C1.8 & BCA Specification C1.8
▪ Air Conditioning Shutdown	BCA 2019 Specification E2.2a & AS1668.1-2015
▪ Automatic Fail Safe Devices	BCA 2019 Amendment No 1, Clauses D2.19 & D2.21

ESSENTIAL FIRE SAFETY MEASURE	STANDARD OF PERFORMANCE
- Fire Safety Engineering Report - Number of exits required – BCA Clause D1.2. - Distances between Alternative Exits - BCA Clause D1.5.	To Be Advised
Offences Signage to fire isolated stairways	Environmental Planning & Assessment Regulation 2000 Clause 183

PROPOSED TIMETABLE FOR FIRE SAFETY UPGRADE WORKS:

The proposed timetable for undertaking the fire safety upgrading works at the abovementioned site has been spread over 3 Years subject to Council approval.

YEAR 1 – UPGRADE WORKS

	UPGRADING WORKS
1	Fire stopping inspection and report by an accredited fire safety practitioner. All tenancies are required to be inspected.
2	Obtain CAD drawings for the building to assist with project management.
3	Assess compliance of the existing portable fire extinguishers within the various tenancies.
4	Install additional emergency lighting and exit signs as required
5	Installation of Smoke Detection System and fail safe device to the autosliding door. Verification is required that the auto sliding door can be opened manually under a force of not more than 110N
6	Engage an accredited fire safety engineer to undertake a performance assessment for BCA Clauses D1.2 and D1.5.
7	Fire door inspection and report by an accredited fire safety practitioner. All fire doors are required to be inspected for compliance.
8	Combustible items within the fire isolated stairway shall be removed ie pot plants, notice boards etc.

YEAR 2 - UPGRADE WORKS

	UPGRADING WORKS
9	The electrical meter room and sub boards within the various tenancies shall be enclosed with non-combustible construction or fire protective covering and suitably smoke sealed.
10	Install fire stopping where required.
11	Install hold open devices and compliant lever latches to the exit doors and the doors in the path of travel to the exits.

12	Obtain Sydney Water Pressure and Flow statement for the street hydrant. The hydraulic consultant shall assess the street hydrant and fire hose reel for compliance.
13	Provide compliant signage to the fire stair doors and including offences signage
14	Install new fire doors if required.

YEAR 3 - UPGRADE WORKS

	UPGRADING WORKS
15	Installation of Fire Hydrant system (if required after further assessment).
16	Installation of Fire Hose reel system (if required after further assessment).
17	Install compliant stair safety treads to the internal fire isolated stairway.
18	Upgrade the existing balustrades/barriers to the fire isolated stairway and level 2 balconies.

CONCLUSION

In summary it is considered that the adoption of the recommendations in this report will result in enhanced fire and life safety commensurate with the age and nature of the building.

If you have any questions in relation to the above, please do not hesitate to contact the undersigned on (02) 91812101 or 0404 010 543.

Yours faithfully



EROL URLUDAG (Director)

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