




BUILDING CODE OF AUSTRALIA ASSESSMENT REPORT

(NCC 2019 Edition – Amendment 1)

19 ADELAIDE STREET, BALGOWLAH HEIGHTS

Assessment based on the architectural drawings prepared by MGA Architects Pty Limited, Project No. 20-0163, Drawings No's A0.00, A1.00, A1.01, A1.02, A2.00, A3.00 & A3.01 all dated December 2020.

BCA Assessment Report	2	DA Issue	Grant McGrath / 1.12.20	
DOC. NAME	REV.	DESCRIPTION	PREPARED / DATE	SIGNED

INTRODUCTION

1.1 General

The following Building Code of Australia Assessment report has been prepared for MGA Architects Pty Limited for the proposed alterations and additions to an existing residential dwelling to two (2) residential apartments with associated private garages.

1.2 Purpose of the Report

The purpose of this report is to detail all relevant deemed-to-satisfy provisions of the National Construction Code (BCA 2019 - Amendment 1) and to make recommendations to ensure compliance with these provisions.

1.3 Report Basis

This report is based on:

- i. The Building Code of Australia 2019 (Amendment 1), inclusive of NSW variations.
- ii. The architectural drawings prepared by MGA Architects Pty Limited as referenced above.

1.4 Exclusions

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

- i. The Disability Discrimination Act 1992 (Commonwealth), including the suitability of adaptable units to comply with Council requirements.
- ii. The requirements of other service providers (i.e. Ausgrid, Sydney Water, Jemena, NBN Co. ...etc.)
- iii. Fire engineering analysis of any matter found not to meet with the deemed-to-satisfy provisions of the BCA.
- iv. Volume 3 of the National Construction Code (Plumbing Code of Australia).
- v. The planning requirements of Northern Beaches Council.



BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "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	<p>Class 2: Residential Sole-Occupancy Units. Class 10a: Private Garages and the associated Level 1 sanitary facility.</p> <p><u>Note: The Level 2 "Exiting Store" has been assessed as having a total floor area of less than 10% of the total floor area of the Level 2 storey. A classification of Class 10a is permitted under Clause A6.0 of the BCA without requiring a separate classification of Class 7b (storage).</u></p>

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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 PART B1 - STRUCTURAL PROVISIONS				
Deemed to Satisfy Provisions	B1.0	Specifies DTS means to satisfy Performance Requirements BP1.1 and BP1.2.	DTS	<p>Building to Comply.</p> <p>Where a <i>Building Solution</i> is proposed to comply with the <i>Deemed-to-Satisfy Provisions</i>, Performance Requirement BP1.1 to BP1.3 are satisfied by complying with B1.1, B1.2 and B1.4 and BP5.</p> <p>All new structural elements shall be designed and certified by a professional Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>The buildings existing structural elements are to be certified by a professional Structural Engineer (NER) as being capable of withstanding all project dead and live loadings.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>

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Resistance to Actions	B1.1	Resistance to actions.	DTS	<p>Building to Comply.</p> <p>The resistance of a building or structure must be greater than the most critical action effect resulting from different combinations of actions, where –</p> <p>i) the most critical action effect on a building or structure is determined in accordance with B1.2 and the general design procedures contained in AS/NZS 1170.0-2002; and</p> <p>ii) the resistance of a building or structure is determined in accordance with B1.4.</p> <p>All new structural elements shall be designed and certified by a professional Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>The buildings existing structural elements are to be certified by a professional Structural Engineer (NER) as being capable of withstanding all project dead and live loadings.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Determination of Individual Actions	B1.2	Determination of individual actions.	DTS	<p>Building to Comply.</p> <p>The magnitude of individual actions must be determined in accordance with the following:</p> <p>(a) Permanent actions:</p> <p>(i) the design or known dimensions of the building or structure; and</p>

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				<p>(ii) the unit weight of the construction; and</p> <p>(iii) AS/NZS 1170.1-2002.</p> <p>(b) Imposed actions:</p> <p>(i) the known loads that will be imposed during the occupation or use of the building or structure; and</p> <p>(ii) <i>construction activity actions</i>; and</p> <p>(iii) AS/NZS 1170.1-2002.</p> <p>(c) Wind and earthquake actions:</p> <p>(i) the applicable annual probability of design event for safety, determined by –</p> <p>(A) assigning the building or structure an Importance Level in accordance with Table B1.2a of the BCA; and</p> <p>(B) determining the corresponding annual probability of exceedance in accordance with Table B1.2b of the BCA; and</p> <p>(ii) AS/NZS 1170.2 -2011; and</p> <p>(iii) AS/NZS 1170.3 -2003 & AS 1170.4 -2007.</p> <p>(d) Actions not covered in (a), (b) and (c) above:</p> <p>(i) the nature of the action; and</p> <p>(ii) the nature of the building or structure; and</p> <p>(iii) the Importance Level of the building or structure determined in accordance with Table B1.2a of the BCA; and</p> <p>(iv) AS/NZS 1170.1-2002.</p> <p>(e) For the purposes of (d) the actions include but are not limited to—</p> <p>(i) liquid pressure action; and</p> <p>(ii) ground water action; and</p> <p>(iii) rainwater action (including ponding action); and</p>

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				<p>(iv) earth pressure action; and (v) differential movement; and (vi) time dependent effects (including creep and shrinkage); and (vii) thermal effects; and (viii) ground movement caused by – (A) swelling, shrinkage or freezing of the subsoil; and (B) landslip or subsidence; and (C) <i>site-works</i> associated with the building or structure; and (ix) <i>construction activity actions</i>.</p> <p>All new structural elements shall be designed and certified by a professional Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>The buildings existing structural elements are to be certified by a professional Structural Engineer (NER) as being capable of withstanding all project dead and live loadings.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
---	B1.3	This clause has been deliberately left blank in the BCA.	---	---

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Determination of Structural Resistance of Materials and Forms of Construction	B1.4	Determination of structural resistance of materials and forms of construction.	DTS	<p>Building to Comply.</p> <p>All structural and other building elements are to comply with the following Australian Standards (as applicable):</p> <ul style="list-style-type: none"> ▪ Masonry (including masonry-veneer, unreinforced masonry and reinforced masonry): AS 3700-2018 ▪ Concrete Construction (including reinforced and prestressed concrete): AS 3600-2018 ▪ Steel Structures: AS 4100-1998 ▪ Cold Formed Steel Structures: AS/NZS 4600-2018 ▪ Design of Timber Structures: AS 1720.1-2010 ▪ Piling: AS 2159-2009 ▪ Glazed Assemblies: AS 2047-2014 & AS 1288-2006 ▪ Termite Risk Management: AS 3660.1-2014 <p><u>(A durable notice is to be provided in accordance with Clause B1.4(i)(ii) of the BCA)</u></p> <p>All new structural elements shall be designed and certified by a professional Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>The buildings existing structural elements are to be certified by a professional Structural Engineer (NER) as being capable of withstanding all project dead and live loadings.</p>

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				<p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Structural Software	B1.5	Structural software limitations.	DTS	<p>Building to Comply.</p> <p>Structural software used in computer aided design of a building or structure that uses design criteria based on deemed-to-satisfy provisions of the BCA (including its reference documents), must comply with the ABCB Protocol for Structural Software.</p> <p>All new structural elements shall be designed and certified by a professional Structural Engineer (NER) in accordance with these BCA requirements.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018.</p> <p>In addition, the professional Structural Engineer is to nominate the fire resistance level of all existing and proposed structural elements in accordance with AS 3600-2018 (Concrete Structures Code) & AS 3700-2018 (Masonry Structures Code).</p> <p>(See also Specification C1.1 below)</p>
Construction of Buildings in Flood Hazard Areas	B1.6	Construction of Buildings in Flood Hazard Areas (Class 2, 3, 4, 9a, 9c buildings)	---	Not applicable.

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BCA PART C1 - FIRE RESISTANCE & STABILITY				
Deemed to Satisfy Provisions	C1.0	Specifies DTS means to satisfy Performance Requirements CP1 to CP9.	---	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 C construction required. (See Clause C1.5 below)
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 two (2) with an effective height of less than 12.0 metres.
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.
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.	DTS	Building to Comply. A building having a rise in storeys of two (2) may be of Type C construction if - a) it is a Class 2 or 3 building, or a mixture of these classes and each sole-occupancy unit has - i) access to at least two (2) exits; or ii) its own direct access to a road or open space. Assessment of the drawings has revealed that the building has a rise in storeys of two (2) and both Class 2 residential sole-

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				occupancy units have direct access to a road or open space. <u>Note: Type C construction is permitted in-lieu of Type B construction.</u>
Class 4 Parts of Building	C1.6	Specified FRLs and separation for Class 4 parts.	---	Not applicable.
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	Building 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 with the Construction Certificate application.
Non-combustible Building Elements	C1.9	The Clause outlines where non-combustible materials are to be used in buildings.	DTS	Not applicable.
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	Building to Comply. The fire hazard properties of all materials, assemblies, fixtures and linings are to comply with Specification C1.10 of the BCA. The following minimum requirements are applicable to this project: <u>1) Class 2 Building (parts)</u> a) Wall & Ceiling Linings i) Public Corridor Walls – Group No. 1 or 2.

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				<p>ii) Public Corridor Ceilings – Group No. 1 or 2. iii) SOU's & Other Areas (Walls & Ceilings) – Group No's. 1, 2 or 3.</p> <p>In addition, all wall and ceiling materials are to achieve a maximum <i>smoke growth rate</i> of not more than 100 <u>or</u> an average specific extinction area less than 250 m²/kg.</p> <p>b) Floor Coverings</p> <p>All Areas – <i>Critical Radiant Flux</i> of not less than 2.2 kW/m².</p> <p>In addition, all floor coverings are to achieve a maximum <i>smoke development rate</i> of 750 percent-minutes.</p> <p><u>2) Air-handling Ductwork</u></p> <p>Rigid and flexible ductwork is to comply with the fire hazard properties set out in AS 4254.1-2012 and AS 4254.2-2012.</p> <p><u>3) Sarking & Other Materials</u></p> <p>i) Sarking - <i>Flammability Index</i> no greater than 5.</p> <p>ii) Insulation Materials – <i>Spread of Flame Index</i> not greater than 9 and a <i>Smoke Developed Index</i> not greater than 8 if the <i>Spread of Flame Index</i> is more than 5.</p> <p>Full documentation (including fire test certification) is to be provided for assessment at the Construction Certificate stage.</p>
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.	---	---

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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.	---	Not applicable.
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 deem to satisfy provisions are met.	---	Noted. No recommendations.
Application of Part	C2.1	Fire compartment sizes and volumes do not apply to either a carpark provided with a sprinkler system, an open deck carpark or a spectator stand, or residential occupancies. All other classes of building to comply as required.	---	Noted. No recommendations.
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	Not applicable.
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.

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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.	---	Not applicable.
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	<p>Building to Comply.</p> <p>If a building has parts of different classifications located alongside one another in the same storey -</p> <p>a) each building element in that storey must have the higher FRL prescribed in Specification C1.1 of the BCA for that element for the classifications concerned; or</p> <p>b) the parts must be separated in that storey by a fire wall having -</p> <p>i) the higher FRL prescribed in Table 3 or 4; or</p> <p>ii) the FRL prescribed in Table 5, of Specification C1.1 as applicable, for that element for the Type of construction and the classifications concerned.</p> <p>Assessment of the drawings has revealed the following:</p> <p><u>A) Level 1</u></p> <p>The Class 10a building (part) is to be separated from the remainder of the building by construction as follows:</p> <p>a) Walls: 60/60/60 FRL.</p> <p>b) Ceilings: 30/30/30 FRL or a fire protective covering on the underside of the floor</p>

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				<p>including beams incorporated in it and around the columns, if the floor or columns are combustible or of metal.</p> <p><u>B) Level 2</u></p> <p>1) The Class 10a building (parts) are to be separated from the remainder of the building by construction as follows:</p> <p>a) Walls: 60/60/60 FRL.</p> <p>b) Ceilings: 30/30/30 FRL or a fire protective covering on the underside of the floor including beams incorporated in it and around the columns, if the floor or columns are combustible or of metal.</p> <p>2) "Dwelling 02" is to be separated from the remainder of the building as follows:</p> <p>a) Walls: 60/60/60 FRL.</p> <p>b) Ceilings: 30/30/30 FRL or a fire protective covering on the underside of the floor including beams incorporated in it and around the columns, if the floor or columns are combustible or of metal.</p> <p>3) "Dwelling 01" is to be separated from the remainder of the building by walls achieving an FRL of not less than 60/60/60.</p> <p>(See Specification C1.1 below)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Separation of Classifications in Different Storeys	C2.9	This Clause stipulates how you fire separate classifications in different storeys.	DTS	<p>Building to Comply.</p> <p>(See Clause C2.8 above)</p> <p>(See Specification C1.1 below)</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

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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.	---	Not applicable.
Electricity Supply System	C2.13	<p>Certain electricity supply equipment must be protected with construction of not less than 120/120/120 FRL. Equipment includes:</p> <ul style="list-style-type: none"> ▪ 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) 	---	Not applicable.
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.

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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.	---	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.	---	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.	DTS and/or Performance Solution Report by a C10 Accredited Fire Safety Engineer	<p>Building to Comply.</p> <p>In buildings of this type, openings in an external wall of the building that is required to have a fire resistance level must:</p> <p>i) if located less than 1.5 metres from a side or rear boundary of the allotment (both parallel and perpendicular must be protected in accordance with Clause C3.4 of the BCA, and if wall-wetting sprinklers are used, they are located externally and not occupy more than 1/3 of the area of the external wall of the storey in which it is located.</p> <p>The BCA provides the following options for the protection of windows, doors and other openings:</p> <p>A) Window Openings:</p> <ul style="list-style-type: none"> ▪ --/60/-- FRL fire shutters; or ▪ External wall wetting sprinklers used with windows that are automatic or permanently fixed in the closed position; or ▪ --/60/-- FRL fire windows (automatic or permanently fixed in the closed position).

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				<p>B) Door Openings:</p> <ul style="list-style-type: none"> External wall wetting sprinklers used with doors that are automatic closing or self-closing; or Self-closing or automatic closing --/60/30 FRL fire doors. <p>C) Other Openings (excluding voids):</p> <ul style="list-style-type: none"> External wall wetting sprinklers; or Construction having an FRL of not less than --/60/--. <p>Assessment of the drawings has revealed the building has external windows, doors and other openings that stand closer than 1.5 metres to the side property boundaries (<u>both parallel and perpendicular</u>) that are required to be protected in accordance with Clause C3.4 of the BCA.</p> <p>It is recommended that:</p> <ol style="list-style-type: none"> The drawings are to be amended demonstrating full compliance with Clauses C3.2 and C3.4 of the BCA; or A Performance Solution Report is to be prepared by a C10 Accredited Fire Safety Engineer demonstrating compliance with Performance Requirements CP2 and CP8 of the BCA. <p><u>General Notes:</u></p> <p><u>Note i: Fire windows, fire doors and fire shutters are to comply with Specification C3.4 of the BCA.</u></p> <p><u>Note ii: Fire shutters cannot be used in conjunction with awning type windows.</u></p>

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				<p><u>Note iii: Restrictions will apply to the use of fixed window systems where natural ventilation is required to be provided to the building in accordance with Clauses F4.5 & F4.6 of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
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.	DTS and/or Performance Solution Report by a C10 Accredited Fire Safety Engineer	Building to Comply. (See Clause C3.2 above)
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.	---	Not applicable.
Service Penetrations in Fire Isolated Exits	C3.9	Services shall not be installed in fire isolated exits, except as permitted in this Clause.	---	Not applicable.
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.

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Bounding Construction Class 2, 3, & 4 Buildings	C3.11	Stipulates how to protect openings in bounding construction (residential building / parts).	DTS	<p>Building to Comply.</p> <p>In buildings of this type, doorways that open from a sole occupancy unit to a public corridor, public lobby <u>or the like</u>, a room not within a sole occupancy unit or into another sole occupancy unit, are to be fitted with self-closing, tight-fitting, solid core doors not less than 35 mm thick.</p> <p><u>Note i: The Level 2 doorway that provides access into "Dwelling 02" at RL 81.18 is to be provided with a self-closing, tight-fitting, solid core doors not less than 35 mm thick or other a self-closing, --/60/30 FRL fire door, selected and installed in accordance with AS 1905.1-2015.</u></p> <p><u>Note ii: The Level 2 doorway that provides access into "Dwelling 01" at RL 81.18 is to be provided with a self-closing, tight-fitting, solid core doors not less than 35 mm thick or other a self-closing, --/60/30 FRL fire door, selected and installed in accordance with AS 1905.1-2015.</u></p> <p><u>Note iii: Solid core doors and fire doors serving the residential sole occupancy units are to achieve a sound transmission rating of not less than Rw 30 in accordance with Clause F5.5(b) of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
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	<p>Building to Comply.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "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.	---	Not applicable.
---	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	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
Construction Joints	C3.16	Construction joints shall achieve the same FRL as the building component in which it is installed.	DTS	Building to Comply. 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 1530.4-2014 to achieve the required FRL. Full documentation is to be provided with the Construction Certificate application.
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.	---	Noted. No recommendations.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
Lintels	Specification C1.1 Clause 2.3	Details where lintels over doorways or openings require an FRL.	DTS	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
Attachments not to impair fire resistance	Specification C1.1 Clause 2.4	This clause outlines how combustible elements can be attached to an element that is required to have an FRL.	DTS	Building to Comply. 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. Full documentation is to be provided with the Construction Certificate application.
General Concessions	Specification C1.1 Clause 2.5	Outlines general FRL concessions that can be applied for various building components.	---	Not applicable.
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.	---	Not applicable.
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.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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.	---	Not applicable.
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.	DTS	<p>Building to Comply. The BCA assigns the following fire ratings to the listed building elements:</p> <p>A) Level 1</p> <ul style="list-style-type: none"> ▪ Slab on ground: - Nil ▪ External Walls: <ul style="list-style-type: none"> a) Less than 1.5 m (to fire source feature): 60/60/60 FRL. b) 1.5 m to 3.0 m (to fire source feature): Nil. c) 3.0 m or more (to fire source feature): Nil ▪ Floor (separating Level 1 from Level 2): 30/30/30 FRL or a fire protective covering on the underside of the floor including beams incorporated in it and around the columns, if the floor or columns are combustible or of metal. ▪ Internal Bounding Walls: 60/60/60 FRL. <p>B) Level 2</p> <ul style="list-style-type: none"> ▪ Slab on ground: - Nil ▪ External Walls: <ul style="list-style-type: none"> a) Less than 1.5 m (to fire source feature): 60/60/60 FRL.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				b) 1.5 m to 3.0 m (to fire source feature): Nil. c) 3.0 m or more (to fire source feature): Nil <ul style="list-style-type: none"> Floor (separating Level 1 from Level 2): 30/30/30 FRL or a fire protective covering on the underside of the floor including beams incorporated in it and around the columns, if the floor or columns are combustible or of metal. Between or bounding sole-occupancy units: 60/60/60. C) Level 3 <ul style="list-style-type: none"> External Walls: <ul style="list-style-type: none"> a) Less than 1.5 m (to fire source feature): 60/60/60 FRL. b) 1.5 m to 3.0 m (to fire source feature): Nil. c) 3.0 m or more (to fire source feature): Nil Design certification for the buildings fire rated structural elements is to be issued by a professional Structural Engineer (NER).
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	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
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	Building to Comply. All floor, wall and ceiling materials and other assemblies are to comply as required. (See Clause C1.10 above). Full documentation is to be provided with the Construction Certificate application.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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 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.
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	Building to Comply. Fire windows, fire doors and fire shutters are to comply with Specification C3.4 of the BCA. Full documentation is to be provided with the Construction Certificate application.
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	Building to Comply. Full documentation is to be provided with the Construction Certificate application.
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.	---	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).	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Number of Exits Required	D1.2	This Clause outlines the number of exits required from each part of the building.	DTS	Complies.
When Fire Isolated Exits are Required	D1.3	This Clause outlines when fire isolated exits are required in buildings.	---	Not applicable.
Exit Travel Distances	D1.4	Travel distances to exits in various building types.	DTS	Complies.
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)	---	Not applicable.
Dimensions of Exits and Paths of Travel to Exits	D1.6	This Clause details clear dimensions and widths of exits.	DTS	Complies.
Travel via Fire Isolated Exits	D1.7	This Clause details connection into and discharge from fire isolated stairs / passageways.	---	Not applicable.
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.	DTS	Not applicable.
Discharge from Exits	D1.10	Clear width and disposition of exit discharges.	DTS	Complies.
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.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Number of Persons Accommodated	D1.13	Calculation of the number of occupants in each part of a building based on floor area.	DTS	<u>Note: Not applicable to the Class 2 & Class 10a building (parts).</u>
Measurement of Distances	D1.14	Details how distances are measured in relation to egress design.	---	Noted.
Method of Measurement	D1.15	Details how distances are measured in relation to egress design.	---	Noted.
Plant Rooms and Lift Motor Rooms: Concession	D1.16	Egress dispensations in relation to Plant Rooms and Lift Motor Rooms.	---	Not applicable.
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) storeys where the Class 9b <i>Early Childhood Centre</i> is the only use in the building.	---	Not applicable.
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.	---	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 Class2building or Class4 part of a building.	---	Noted.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Fire Isolated Stairways & Ramps	D2.2	Structural design of fire isolated stair shafts.	---	Not applicable.
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.	---	Not applicable.
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 Stairways	D2.9	This Clause stipulates how stair widths and heights are measured.	---	Noted.
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.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Goings & Risers	D2.13	This Clause stipulates construction of stair treads and risers.	DTS	<p>Building to Comply.</p> <p>1) All stairways are to comply as required.</p> <p>2) All stairways are to have a non-slip surface or a non-slip nosing strip in accordance with Table D2.14 of the BCA and AS 4586-2013.</p> <p>3) The internal private stairways serving "Dwelling 01" is to be designed and constructed in accordance with Clause D2.13 of the BCA.</p> <p>4) The external balcony stairway serving "Dwelling 02" is to be designed and constructed in accordance with Clause D2.13 of the BCA.</p> <p>5) The common area external stairways serving both "Dwelling 01" and "Dwelling 02" are to be designed and constructed in accordance with Clause 11, Clause 12 and Figure 28 of AS 1428.1-2009.</p> <p><u>Note i: Handrails are to be provided on both sides of the common area external stairways serving both "Dwelling 01" and "Dwelling 02" as required by Clause 11, Clause 12 and Figure 28 of AS 1428.1-2009.</u></p> <p><u>Note ii: The existing internal stairway located between Level 1 and Level 2 is to be demolished.</u></p> <p>Full documentation is to be provided with the Construction Certificate Application.</p>
Landings	D2.14	This Clause stipulates construction of landings.	DTS	<p>Building to Comply.</p> <p>All landings are to have a non-slip surface or a non-slip nosing strip in accordance with Table D2.14 of the BCA and AS 4586-2013.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Thresholds	D2.15	This Clause stipulates construction of thresholds to doorways.	DTS	<p>Building to Comply.</p> <p>In buildings of this type, 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> <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. <p>Assessment of the drawings has revealed the following:</p> <ul style="list-style-type: none"> i) A compliant threshold has not been provided within "Dwelling 01" to serve the doorway that opens into "Ex. Garage 02". ii) A compliant threshold has not been provided within "Dwelling 02" to serve the doorway that opens into "Ex. Garage 01". <p>It is recommended that the drawings are to be amended to demonstrate full compliance with Clause D2.15 of the BCA. Full documentation is to be provided with the Construction Certificate application.</p>
Barriers to Prevent Falls	D2.16	Details of height and construction of balustrades to voids, stairs, balconies, etc.	DTS	<p>Building to Comply.</p> <p>All balustrades and barriers are to comply as required.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Handrails	D2.17	Details where handrails need to be incorporated along stairways.	DTS	<p>Building to Comply.</p> <p>1) The internal stairway serving "Dwelling 01" is to be provided with a single handrail in accordance with Clause D2.17 of the BCA.</p>

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>2) The common area external stairways are to be provided with handrails on both sides in accordance with Clause 11, Clause 12 and Figure 28 of AS 1428.1-2009.</p> <p>3) The external balcony stairway serving "Dwelling 02" is to be provided with a single handrail in accordance with Clause D2.17 of the BCA.</p> <p>(See also Part D3 below regarding the external AS 1428.1-200 ramp required to serve "Dwelling 01")</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
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.	---	Not applicable.
Doorways & Doors	D2.19	Details how doors serving as required exits are to operate.	---	Not applicable.
Swinging Doors	D2.20	Swing doors serving as required exits must swing in the direction of travel, <u>unless</u> it serves a building or part less than 200 m ² .	DTS	Not applicable.
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.	---	Not applicable.
Re-entry from Fire Isolated Exits	D2.22	Stipulates whether you can lock a fire stair entry door from the inside.	---	Not applicable.
Signs on Doors	D2.23	Appropriate signage is required to exit doors opening to fire isolated passageways, and stairways.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Protection of Openable Windows	D2.24	This Clause requires protection of window opening.	DTS	<p>Building to Comply.</p> <p>A) Windows in Bedrooms</p> <p>1) The BCA requires that openable bedroom windows in Class 2 buildings are to be provided with protection if the floor below the window is 2.0 metres or more above the surface beneath.</p> <p>2) Where the lowest level of the window opening is less than 1.7 metres above the floor, a window in a Class 4 bedroom is to comply with the following:</p> <p>i) The openable portion of the window must be protected with a device to restrict the window opening; or</p> <p>ii) a screen with secure fittings.</p> <p>The device or screen used to protect an openable window must comply with Clause D2.24(b)(ii) of the BCA.</p> <p>B) General Barriers to Windows</p> <p>A barrier with a height of not less than 865 mm above the floor is required to an openable window in addition to the requirements listed above for windows located 4.0 metres or more above the surface beneath.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Timber stairways: Concession	D2.25	This Clause provides concessions for fire-isolated stairways and passageways constructed from fire-protected timbers.	---	Not applicable.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
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BCA PART D3 - ACCESS FOR PEOPLE WITH DISABILITIES (Clauses D3.0 – D3.12, Clause E3.6 & Clause F2.4 of the BCA)

Building to Comply.

Disabled access and facilities are required to the building as follows:

1) Disability access is required to be provided to the main entry door of "Dwelling 01" from the footpath in Adelaide Street in accordance Clause D3.1 & Table D3.1 of the BCA and AS 1428.1-2009.

Note i: The drawings are to be amended demonstrating full compliance with Clause D3.1 & Table D3.1 of the BCA and AS 1428.1-2009.

Note ii: The "New 1:14 Ramp" proposed to serve "Dwelling 01" is to be redesigned to ensure full compliance with AS 1428.1-2009.

2) A compliant 1540 mm x 2070 mm turning space for persons in a wheelchair is required to be provided adjoining the entry door to "Dwelling 01" in accordance with Clause D3.3 of the BCA and AS 1428.1-2009.

Note: The drawings are to be amended demonstrating full compliance with Clause D3.3(c) of the BCA and AS 1428.1-2009.

3) All stormwater drainage pits are to be located outside all required accessways. Where this is not the case, the grates to these drainage pits and the associated slope of the adjoining surfaces are to be fully compliant with AS 1428.1-2009.

4) On an accessway where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and glazing capable of being mistaken for a doorway or opening must be clearly marked in accordance with AS 1428.1-2009.

5) All accessway floor surfaces are to be non-slip in accordance with AS 1428.1-2009 and AS 4586-2013.

6) All accessway surfaces are to comply with Clause 7 of AS 1428.1-2009.

7) The "New 1:14 Ramp" is to be provided with tactile ground surface indicators (TGSIs) in accordance with Clause D3.8 of the BCA and Sections 1 and 2 of AS/NZS 1428.4.1-2009.

A report is to be prepared by an ACAA Accredited Access Consultant detailing all works required to be carried out to the building to ensure compliance with Part D3 and Clause F2.4 of the BCA.

General Notes:

Note i: Where compliance is not achieved in accordance with the deemed-to-satisfy provisions of the BCA, a Performance Solution Report is to be prepared by an ACAA Accredited Access Consultant demonstrating compliance with the Performance Requirements of the BCA.

Note ii: The parties are advised of the need to comply with the requirements of the Disability Discrimination Act 1992 (Commonwealth).

Full documentation is to be provided for assessment with the Construction Certificate application.

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.	---	Noted. No recommendations.
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BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
---	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.	---	Not applicable.
Fire Hose Reels	E1.4	This Clause stipulates when fire hose reels are required.	---	Not applicable.
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	<p>Building to Comply.</p> <p>Portable fire extinguishers are to be provided throughout the building in accordance with Table E1.6 of the BCA and AS 2444-2001.</p> <p><u>Note: The portable fire extinguishers required to serve the Class 2 building (parts) are to be positioned on each level of the building at a point no greater than 10.0 metres from the entry doorways of the residential sole-occupancy units. These portable fire extinguishers are to be AB(E) type having a minimum size of 2.5 kg in accordance with Table E1.6 of the BCA.</u></p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
---	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.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
Fire Precautions during Construction	E1.9	Fire services must be provided and be operational during the construction phase in accordance with Clause E1.9.	DTS	Building to Comply. Not less than one (1) portable fire extinguisher to suit Class A, B & C fires and electrical fires is to be provided at all times on each storey of the building adjacent to each required exit or temporary stairway or exit. Full documentation is to be provided with the Construction Certificate application.
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.	---	Noted. No recommendations.
Application of Part	E2.1	Stipulates where Smoke Hazard Management provisions do not apply.	---	Noted. No recommendations.

BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "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	Building to Comply. An automatic fire detection and alarm system is to be provided to serve the whole building in accordance with Clause 3 of Specification E2.2a of the BCA; and Full documentation is to be provided with the Construction Certificate application.
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.
Residential Fire Safety Systems	Specification E2.2d	Details the use of use of Residential Fire Safety Systems referenced in Specification E1.5a of the BCA.	---	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.	---	Noted. No recommendations.
Emergency Lighting	E4.2 – E4.4	Design and installation requirements for emergency lighting.	---	Not applicable.
Exit Lighting	E4.5 – E4.8	Design and installation requirements for exit lighting.	---	Not applicable.

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Early Warning & Intercommunication System (EWIS)	E4.9	This Clause details where an EWIS system is required.	---	Not applicable.
BCA SECTION F – HEALTH & AMENITY				
Damp / Weatherproofing	Part F1	Prevention of external and internal water / moisture accumulation.	DTS	Building to Comply. 1) Stormwater drainage is to comply with AS/NZS 3500.3-2018. 2) Waterproofing of the buildings wet areas is to comply with Clause F1.7 of the BCA. 3) Damp-proofing of the building is to comply with Clauses F1.9 and F1.10 of the BCA. 4) All sanitary compartments are to be provided with a floor waste. All floors are to be graded and drained to the floor waste to prevent the ponding of water. 5) Waterproofing membranes for external above ground use are to comply with AS 4654.1-2012 and AS 4654.2-2012. Full documentation is to be provided with the Construction Certificate application.
Sanitary and Other Facilities	Part F2	Provisions of sanitary, washing facilities and control of micro-organisms.	DTS	Building to Comply. 1) The Class 2 residential sole occupancy unit are to be provided with a kitchen (including a kitchen sink and facilities for the preparation and cooking of food), WC and a washbasin, shower or bath and a laundry. 2) Laundries are to be provided with a washtub and have sufficient space for a washing machine and a clothes dryer. 3) Sanitary compartments are to be constructed in accordance with Clause F2.5 of the BCA.

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				Full documentation is to be provided with the Construction Certificate application.
Room Sizes	Part F3	Requirements for minimum room height.	DTS	<p>Building to Comply.</p> <p>Minimum ceiling heights are to be as follows:</p> <ol style="list-style-type: none"> 1) Habitable rooms (excluding kitchens) – 2.4 m. 2) Kitchens – 2.1 m. 3) Corridors, passageways or the like – 2.1 m. 4) Bathrooms, laundry, sanitary compartments, air-lock, pantry, storerooms, garage or the like – 2.1 m. 5) Stairways – 2.0 m measured vertically above the nosing line. <p>Full documentation is to be provided with the Construction Certificate application.</p>
Light and Ventilation	Part F4	Requirements for light and ventilation.	DTS	<p>Building to Comply.</p> <p>1) Natural Lighting – natural lighting is required to be provided to all habitable rooms by windows that have an aggregate light transmitting area (measured exclusive of framing member, glazing bars or other obstructions) of not less than 10% of the floor area of the room.</p> <p>The glazing is to open to the sky or face a courtyard (or other space) that is open to the sky or an open verandah or the like.</p> <p><u>Note: A window and door schedule is to be prepared for the building showing compliance with the minimum natural lighting requirements of the BCA.</u></p> <p>2) Natural Ventilation - natural ventilation is required to be provided to all rooms by windows, doors or other devices which can</p>

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				<p>be opened with an aggregate opening or openable size of not less than 5% of the floor area of the room required to be ventilated.</p> <p>These windows are to open to;</p> <p>a) a suitably sized court or space open to the sky; or</p> <p>b) an open verandah or the like.</p> <p><u>Note: A window and door schedule is to be prepared for the building showing compliance with the minimum natural ventilation requirements of the BCA.</u></p> <p>3) Mechanical ventilation is to be provided throughout all parts of the building that are not provided with compliant natural ventilation in accordance with AS 1668.2-2012 and AS 1668.1-2015 (as applicable).</p> <p>Detailed plans, specifications and design certification are to be prepared by a professional Mechanical Engineer.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Sound Transmission	Part F5	Requirements for sound transmission in Class 2 and 3 buildings.	DTS	<p>Building to Comply.</p> <p>The following sound transmission and insulation categories apply to the Class 2 (parts) of the building:</p> <p>A) Floors – $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) of not more than 62.</p> <p>B) Walls (between and bounding SOU's)</p> <p>i) $R_w + C_{tr}$ (airborne) not less than 50, if it separates sole-occupancy units; and</p>

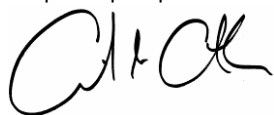
BCA Clause or Part Title	Deemed to Satisfy Provisions (Clauses)	Description of Compliance Requirement	Proposed Design BCA "Deemed to Satisfy" OR "Performance Solution" to Satisfy BCA Performance Requirements	Comments
				<p>ii) have an R_w (airborne) not less than 50 if it separates a <i>sole-occupancy unit</i> from a lift shaft, stairway, public corridor, public lobby or the like, or parts of a building with different classification.</p> <p>iii) be of <u>discontinuous construction</u> and for masonry, where wall ties are required to connect leaves, the ties are to be of the resilient type; and for other than masonry, there is no mechanical linkage between leaves except at the periphery if it separates a bathroom, <i>sanitary compartment</i>, laundry or kitchen in one <i>sole-occupancy unit</i> from a <i>habitable room</i> (other than a kitchen) in an adjoining unit.</p> <p>C) Unit Entry Fire Doors</p> <p>R_w not less than 30.</p> <p>D) Services</p> <p>Ducts, soil, waste water or storm water pipes passing through residential sole-occupancy units are to achieve the following sound ratings:</p> <ul style="list-style-type: none"> ▪ $R_w + C_{tr}$ (airborne) not less than 40 if the adjacent room is a habitable room (other than a kitchen); or ▪ $R_w + C_{tr}$ (airborne) not less than 25 if the adjacent room is kitchen or non-habitable room). <p>E) Sound Isolation of Pumps</p> <p>A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.</p>

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				<p>A report is to be prepared by an Acoustic Engineer detailing the methods to be adopted to meet with these prescriptive requirements of the BCA.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>
Condensation Management	Part F6	Requirements for the control of condensation in Class 2 and 4 buildings.	DTS	<p>Building to Comply.</p> <p>1) Where a pliable building membrane is installed in an external wall, it must -</p> <ul style="list-style-type: none"> i) comply with AS/NZS 4200.1-2017; and ii) be installed in accordance with AS 4200.2-2017; and iii) be a vapour permeable membrane for climate zones 6, 7 and 8; and iv) be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. <p>2) An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must have a minimum flow rate of -</p> <ul style="list-style-type: none"> i) 25 L/s for a bathroom or sanitary compartment; and ii) 40 L/s for a kitchen or laundry. <p>3) Exhaust from a kitchen must be discharged directly or via a shaft or duct to outdoor air.</p> <p>4) Exhaust from a bathroom, sanitary compartment, or laundry must be discharged –</p> <ul style="list-style-type: none"> i) directly or via a shaft or duct to outdoor air; or ii) to a roof space that is ventilated in accordance with Clause F6.4 of the BCA.

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				Full documentation is to be provided with the Construction Certificate application.
BCA PART G – ANCILLARY PROVISIONS				
Swimming Pools	G1.1(c)	Safety requirements for spa pools and swimming pools to prevent injury to persons.	---	Not applicable.
Refrigerated Chambers, Strong Rooms and Vaults	G1.2	Requirements for the safety of persons inside Coolrooms, Strong Rooms and Vaults	---	Not applicable.
Outdoor Play Spaces	G1.3	Details the requirements for the fencing of outdoor play spaces in Early Childhood Centres to provide for the safety of children.	---	Not applicable.
Provisions for Cleaning Windows	NSW G1.101	Details the requirements for the cleaning of windows located three (3) or more storeys above the ground.	---	Not applicable.
Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues	G2.0 – G2.4	Details the requirements for the installation of boilers, pressure vessels, heating appliances, fireplaces, chimneys and flues.	---	Not applicable.
Atrium Construction	G3.1 – G3.8	Details additional requirements for buildings with atriums.	---	Not applicable.
Construction in Alpine Areas	G4.0 – G4.9	Details additional requirements for buildings constructed in designated alpine areas.	---	Not applicable.
Construction in Bushfire Prone Areas	G5.0 – G5.2	Details additional requirements for Class 2 and 3 buildings (and associated Class 10a structures) located in designated bushfire prone areas.	---	Not applicable.

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Occupiable Outdoor Areas	G6.1 – G6.10	Details additional requirements for "occupiable outdoor areas" as defined by the BCA.	---	Not applicable.
<p align="center">BCA SECTION J – ENERGY EFFICIENCY</p> <p>Building to Comply.</p> <p>The energy efficiency provisions of BASIX and <u>NSW Sub-section J(A) of the BCA</u> are applicable to the Class 2 building (parts).</p> <p>A report is to be prepared by an <u>ABSA Accredited Assessor</u> detailing all works required to be carried out to the buildings envelope and systems to ensure compliance with these requirements. All works listed in the report of the ABSA Accredited Assessor are to be incorporated into the building design and services documentation.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>				
<p align="center">OTHER CONSIDERATIONS</p> <p>The buildings carparking facilities are to be certified by a practising professional Traffic Engineer/Civil Engineer as complying with the requirements of Northern Beaches Council and AS/NZS 2890.1-2004.</p> <p>Full documentation is to be provided with the Construction Certificate application.</p>				

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