MATT SHUTER + ASSOCIATES

Building Code of Australia

Design Compliance Report

Development Application Design Review

Proposed Mixed-Use Building at 4 Delmar and 812 Pittwater Road, Dee Why

Report Number & Revision:	**MSA2246_BCA_DA_01**
Prepared For:	**Landmark Group C/- Willow Frank**
Date of Issue:	**25.11.2021**

Ph: 02 9387 4441 | PO Box 42 Bondi Junction NSW 1355
info@msaconsultants.com.au | www.msaconsultants.com.au

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ROLE	NAME + SIGNATURES	CREDENTIALS
Written By:	 Paul O'Shannassy **ASSOCIATE**	**Building Code, Access & Fire Safety Consultant** **Grade 1 - Accredited Building Certifier / PCA** Building and Development Certifier Registration No. BDC0825 Member of the Australian Institute of Building Surveyors Member of the Association of Accredited Certifiers
Reviewed By:	 Matt Shuter **DIRECTOR**	**Building Code, Access & Fire Safety Consultant** **Grade 1 - Accredited Building Certifier / PCA** Building and Development Certifier Registration No. BDC0809 Member of the Australian Institute of Building Surveyors Member of the Association of Accredited Certifiers

Contents

Ph: 02 9387 4441 | PO Box 42 Bondi Junction NSW 1355
info@msaconsultants.com.au | www.msaconsultants.com.au

Executive Summary

This report assesses the **Development Application Level Design** for the proposed **Proposed Mixed-Use Building at 4 Delmar and 812 Pittwater Road, Dee Why** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

The primary purpose of the report is to identify any non-compliances with the deemed-to-satisfy provision of the BCA, relevant for the **Development Application Level Design.**

Subject to compliance with the recommendations of this report, the development can readily comply with the relevant requirements of the BCA. Recommendations have been identified as follows:

- Significant BCA matters, being those with the ability to affect the design have been included in Table 1.0 below.
- A BCA Compliance Schedule suitable for the current level of design is also contained in in Table 6.0 of this report.

Table 1.0 – Significant BCA Compliance Matters

#	DTS Clause	Recommendation	Status
1.	Various	**Performance Solutions (Fire Engineer)** It is understood that the following matters are proposed to be addressed via performance solution by a fire safety engineer. It is recommended that early 'in-principle' support be obtained from the fire engineer (to reduce the possibility of later design changes being required after the issue of development consent). a) BCA D1.4 – Extended travel distances in basement and above ground levels b) BCA D1.5 – Extended distance between alternative exits in the basement carparking levels c) BCA D1.7 – Discharge of fire exits within the building, and protection of external paths of travel to the street d) BCA D2.4 – Lack of separation of rising and descending stair flights e) BCA E1.3, E1.5, E2 – Provision separate fire service systems to serve a single 'united' building	**Performance Solution Required**

1.0 Introduction

This report assesses the **Development Application Level Design** for the proposed **Proposed Mixed-Use Building at 4 Delmar and 812 Pittwater Road, Dee Why** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

2.0 Assessed Information

The following information was specifically relied upon for this assessment:

- Desktop assessment of **Development Application design documentation** and supporting design plans and information prepared by Rothe Loman Architects (refer **Attachment C – Assessed Plans**)
- The Building Code of Australia (National Construction Code) 2019 – Amendment 1
- The Guide to the Building Code of Australia (National Construction Code) 2019 – Amendment 1

3.0 Purpose & Basis of the Report

3.1 Report Purpose

The purpose of this report is to assess the following:

- Assess the design documentation and requirements of the current BCA, and detail any significant issues (or those which have the ability to affect the current design);
- Provide recommendations to best address any significant departures from the requirements of BCA and to guide the detailed design development.

3.2 General Basis

The general basis of this report is to assess and address compliance with the significant requirements of the Building Code of Australia (BCA) as relevant to the new building works and with regard to the site conditions and current design documentation. The scope of services is limited to assessment against *Sections C - Fire Resistance, Section D - Access & Egress and Section E - Services & Equipment, Section F - Health and Amenity, and high level parameter advice on Section B – Structure and Section J - Energy Efficiency* of the BCA.

3.3 Regulatory Basis

The following outlines the regulatory basis for assessment for Crown developments and existing buildings.

3.3.1 Environmental Planning & Assessment Act, 1979 and Regulation 2000

This report assumes compliance with the Building Code of Australia is required under Environmental Planning & Assessment Act, 1979 and Regulation 2000.

4.0 Limitations & Exclusions of the Report

The Report does not specifically consider anything beyond the considerations contains in Section 2.0 "Assessed Information" and Section 3.0 "Purpose & Basis of Report" and is otherwise also subject to the following specific limitations:

- This report is limited strictly to assessment of the proposed project scope, ie 'the new building works' as detailed in the information referenced in Section 2.0 and does not constitute a full upgrade assessment of any existing building.
- The report is limited to assessment of the development against the deemed-to-satisfy provisions of the applicable Building Code of Australia.
- The Report does not provide for any Alternative /Fire Engineered Solutions.
- The information provided to MSA as nominated in Section 2.0 is accepted in good faith as accurate and correct.
- Some requirements of the BCA / Access Regulations are recognised as being interpretive in nature. Where these matters are encountered, interpretations are made in accordance with MSA policy &/or as guided by other standards, guides and industry best practice. Specific relevant interpretations relevant to this assessment are included in Section 5.2 "BCA Assessment Data" of this report.
- MSA does not support the use of combustible cladding or aluminium composite panels as external cladding, lining or ancillary element in any way. Such products are recommended to be avoided and where such products are proposed, MSA automatically excludes their assessment from any reporting and certification and will not accept liability for their use in any way.
- The report does not consider compliance with *The Disability Discrimination Act, 1992*, the *Disability (Access to Premises – Buildings) Standards 2010*, or accessibility related parts of the *BCA* (unless specifically referred to). A separate accessibility (DDA) report is typically required.
- Detailed assessment of any engineering matters or Australian Standards– e.g: structural, civil, electrical, hydraulic, mechanical, fire, bushfire protection is beyond the scope of this report.

5.0 Building Characteristics

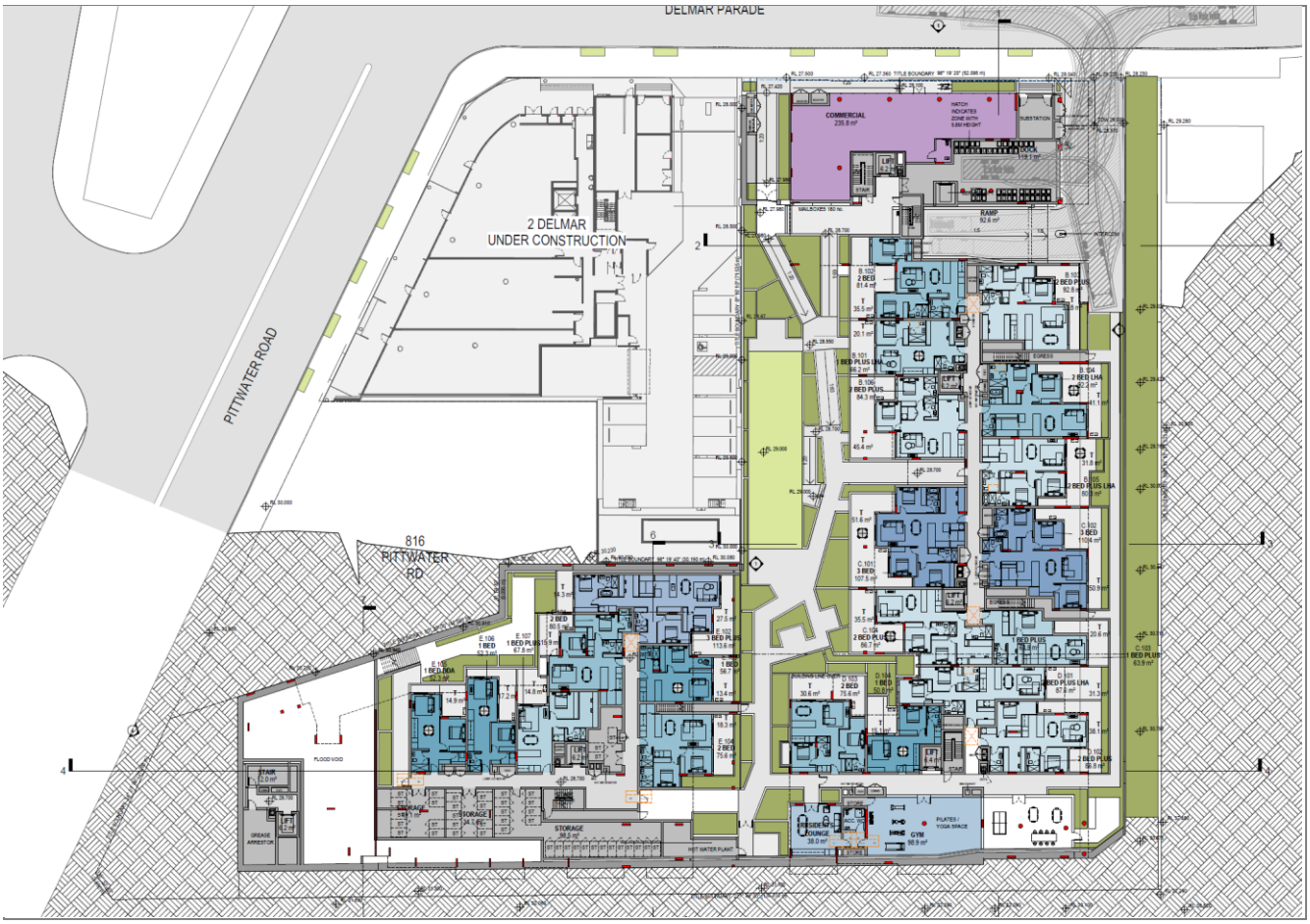
5.1 Building Details

5.1.1 Proposed Mixed-Use Building at 4 Delmar and 812 Pittwater Road, Dee Why

The proposed works essentially comprise the construction of a multi-level residential building (with commercial tenancies at ground floor level) over 2 levels of associated basement carparking.

The residential units are constructed in 2 'blocks' (& over two potential Torrens titled allotments), but sit over the common basement carpark so are considered to form a single 'building' for the purposes of this assessment. (see additional comments relating to 'United Buildings' in Section 5.2 below).

The general layout is shown in the ground floor plan extract below.



Ph: 02 9387 4441 | PO Box 42 Bondi Junction NSW 1355
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5.2 BCA Assessment Data

BCA Clause		Proposed Building
A1.1	Classification	2 – residential units 5 – commercial (or 6 if used for retail) 7a – carparking (basement) 7b – storage (basement/ground– part)
A3.2	Rise in Stories	Assumed 8 (or more than 3)
C1.2	Construction Type	A
C2.2	Floor areas and Fire Compartment Limitations	Not exceeded for Type A construction.
Scd 3	Effective Height	More than 12m, Less than 25m *This is based on the RL of the floor of the top most storey (being level 7 - 51.8) minus the RL of the lowest storey counted in RIS (being ground – 28.7)*
A7.0	United Buildings	For the purposes of this assessment, the building is considered a 'united building' under the provision of BCA A7.0.

5.3 BCA / Access Interpretation

- *United Building* Under BCA A7.0, the building (which is proposed to straddle two separate Torrens titled allotments), will be considered a 'united building'.
- *Exit* means— any, or any combination of the following if they provide egress to a road or open space—
    a. An internal or external stairway.
    b. A ramp.
    c. A fire-isolated passageway.
    d. A doorway opening to a road or open space, or
    e. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.
- *Occupiable Outdoor Area* – open /unroofed sections may be considered 'occupiable outdoor area' a new definition under Part G6 of BCA 2019 that requires unroofed parts of buildings meet certain BCA criteria in relation to fire resistance, egress and services and equipment as these areas can have an effect on the safety of occupants.

6.0 BCA Recommendations

The following Table 6.0 provides a summary of assessment of the architectural plans against the significant requirements of the BCA. The following notations are made in the "Status" column of Table 6.0 for ease of reference.

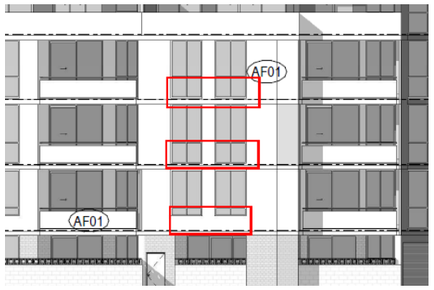
Status	Description
Complies	The design documentation for the development demonstrates compliance with the BCA deemed-to-satisfy (DTS) provisions as relevant to the new building works &/or the existing level of compliance is maintained.
Can Readily Comply	Though strict & full compliance can't necessarily be ascertained on the current level of documentation detail, compliance can be readily achieved within the constraints of the design. Details typically provided at building approval/ CC stage.
Details Required	Further detail required to determine compliance.
NA / Informational	The matter is not applicable to the item of the project scope or the clause is informational only
Does Not Comply	There is an apparent or foreseeable non-compliance with the BCA deemed-to-satisfy provisions indicated on the design documentation that will require re-design or further consideration.
Fire Engineering or BCA Performance Solution	A BCA Performance Solution Report (or Fire Engineering Report) is proposed to support a non-compliance with the DTS provisions. *The recommendations of the performance solution report must be incorporated into the design.*

Table 6.0 provides a summary of key BCA considerations only and should be read in conjunction with the full terms, wording and requirements of the Building Code of Australia to ensure compliance. Some BCA Clauses that are not relevant have specifically not been included in the Table.

Table 6.0 –BCA Compliance Schedule

BCA Cl.	BCA Requirement	Compliance Comment	Status
Section B – Structure			
Section B	**Structural Compliance** All new works must meet current Structural Requirements of Section B of the BCA. Existing structures should be confirmed as capable of supporting any new loads.	Structural Engineer to certify any new structural works are in accordance with BCA Section B & Australian Standards in detailed design.	**Can Readily Comply**
B1.4	**Glazing – BCA Clause B1.4** All glazing must be selected and installed in accordance with AS2047 & AS1288.	Any new glazing must comply. Plan or Spec note required.	**Can Readily Comply**
Section C – Fire Resistance			
Part C1 – Fire Resistance & Stability			
Spec C1.1	**Type of Construction / Fire Resistance of Building Elements** All new works must meet current Fire Resistance Level (FRL) requirements of Section C and Specification C1.1 of the BCA for the required Type of Construction.	The architect and structural engineer are to certify new structural works will comply with the fire resistance levels (FRL) specified in BCA Specification C1.1 for **Type A** Construction. The following general FRL's are required: 1. Class 2 (residential) 90 mins 2. Class 7a (carpark) & class 5 (commercial) 120mins 3. Class 6 (retail) – 180 mins 4. Class 7b (storage) – 240m mins. Particular attention should be paid to the class 7b portions (where these exceed a floor area of >10% of the storey on which they are located –in this case they storage components must be classified separately and be fire separated in 240min (4 hour) construction. *See also Spec C1.1 in Table 6.0 and "Attachment A – Summary of Fire Resistance Levels" of this report for more details of fire rating requirements.*	**Can Readily Comply**
2.2 of Spec C1.1	**Fire Protection for Support of Another Part** Where a building element vertically or laterally supports a building element required to have an FRL, that part must generally maintain the same FRL as the part it supports.	Any building element providing direct vertical or lateral support to another building element required to achieve a FRL. Subject to certification from the design engineer (CC stage).	**Can Readily Comply**
2.4 of Spec C1.1.	**Method of attachment not to reduce the fire resistance of building elements** The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element below that required.	Where applicable, subject to detailed design (CC stage).	**Can Readily Comply**
C1.2	**Rise in Stories** The building rise in stories is generally the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space above the finished ground next to that part.	Informational.	**Informational**
C1.3	**Buildings of Multiple Classification** In a building of multiple classification, the type of construction applying to the top storey, applies throughout.	Informational.	**Informational**
C1.4	**Mixed Types of Construction** Informational clause relating to the requirements for buildings more than one type of construction.	NA – entire building will be of Type A construction	**NA**
C1.5	**Two Storey Class 2, 3 or 9 buildings** Provides a concession for construction type in certain Class 2, 3 and 9b buildings.	NA to subject building.	**NA**
C1.6	**Class 4 Parts** Provides construction type requirements for Class 4 parts	NA to subject building.	**NA**
C1.7	**Open Spectator Stands** Provides construction type requirements for buildings containing open spectator stands.	NA to subject building.	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
C1.8	**Lightweight Construction** Lightweight construction must comply with Specification C1.8 where it is used for fire rated elements and/or lifts shafts.	Structural engineer to certify that any lightweight construction used complies with BCA C1.8 and Specification C1.8.	**Can Readily Comply**
C1.9	**Non-combustible building elements** a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible: • External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation. • The flooring and floor framing of lift pits. • Non-loadbearing internal walls where they are required to be fire-resisting. b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in— • a building required to be of Type A construction; and • a building required to be of Type B construction, subject to C2.10, in— - a Class 2, 3 or 9 building; and - a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys. c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. d) Certain concession apply for elements containing certain combustible elements such as plasterboard, FC and come bonded laminates	Non-combustible elements must be proposed for all specified building elements. Architect to confirm compliance during detailed design. *Important Note: MSA does not support the use of combustible cladding or aluminium composite panels as an external cladding, lining or ancillary element in any way. Such products are recommended to be avoided and where such products are proposed, MSA automatically excludes their assessment from any reporting and certification and will not accept liability for their use in any way. Non-combustible materials are recommended.*	**Can Readily Comply**
C1.10	**Fire Hazard Properties** Fire hazard properties for all new floor, wall and ceiling linings and assemblies must comply with BCA Specification C1.10 (or otherwise considered non-combustible).	All floor, wall and ceiling linings must meet the fire hazard properties specified in BCA Specification C1.10 or will be non-combustible. Plan or specification note required and test reports for all products should be obtained from a registered testing authority confirming compliance.	**Can Readily Comply**
C1.11	**Performance of external walls in fire** Concrete external walls that could collapse as complete panels (e.g. tilt-up and pre-cast concrete), in a building having a rise in storeys of not more than 2, must comply with Specification C1.11.	Should tilt-up panels be proposed, the structural engineer must certify compliance with BCA C1.11.	**Can Readily Comply**
C1.13	**Fire protected timber: Concession** Fire protected timber can be used in certain Class 2, 3 or 5 buildings subject to meeting specified conditions in this clause.	NA – no protected timber proposed	**NA**
C1.14	**Ancillary Elements** An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is non-combustible or otherwise specified (given concession) in this clause.	Can readily comply. Subject to detail. *Important Note: MSA does not support the use of combustible cladding or aluminium composite panels as an external cladding, lining or ancillary element in any way. Such products are recommended to be avoided and where such products are proposed, MSA automatically excludes their assessment from any reporting and certification and will not accept liability for their use in any way. Non-combustible materials are recommended.*	**Can Readily Comply**
Part C2 – Compartmentation & Separation			
C2.2	**Fire Compartment Floor Area & Volume Limitations** The BCA requires that the floor area of fire compartments is limited to certain areas and volumes dependant on the Type of Construction.	The floor areas and volumes of the assumed fire compartments are within the limitations of Table C2.2. Note assumed fire compartments are essentially: 1. Carpark/basements 2. Commercial/retail tenancies 3. Residential parts	**Complies**
C2.3	**Large Isolated Buildings** Provides concessions from the fire compartment floor area and volume limitations of BCA C2.2 for 'large isolated buildings'	NA to subject building	**NA**
C2.4	**Requirements for Open Space & Vehicular Access**	As above	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
	Provides requirements for open space and vehicular Access for large isolated buildings.		
C2.5	**Class 9a & 9c Buildings** Class 9a and 9c buildings are subject to further requirements in terms of smoke and fire compartmentation. Note BCA NSW C2.5 contains variations to this clause (Applicable in NSW)	The building is not a Class 9a or 9c building.	**NA**
C2.6	**Vertical Separation of Openings in External Walls** In sprinklered buildings required to be of Type A construction, openings in external walls are required to be protected with vertical spandrels or horizontal slabs to prevent fire from spreading from a storey below. Vertical separation must be in the form of: • 'Vertical spandrels' which must be non-combustible, have a FRL of at least 60/60/60, and a height of at least 900mm. At least 600mm must be above the surface of the intervening floor; OR • Horizontal Slab separation (e.g. balcony) – which must have a FRL of not less than 60/60/60 and extend outwards of the opening not less than 1100mm and horizontally not less than 450mm from the side of the opening.	As the building (containing class 2 parts) has a rise in storeys of more than 3 (and as the carpark accommodates >40 vehicles) a sprinkler system is required under BCA E1.5. throughout. BCA E1.5 requires a AS2118.1 system to be provided in the carpark portion, but allows a variety of sprinkler systems to be installed in the residential portion with additional concessions granted depending on the type of system selected. Note - Where a AS2118.1 system is installed throughout, the requirements of this clause are non-applicable. As shown in the example below, there appear to be areas requiring vertical separation. 	**Can Readily Comply**
C2.7	**Separation by Fire Walls** Provides the requirements for fire wall construction.	See below	
C2.8	**Separation of Classifications Within the Same Storey** Separate classifications within the same storey must either be (a) separated by a fire wall or built to the highest FRL required by the two classifications throughout.	Fire walls required to separate the differing classification at the same level – details to be provided at CC stage.	**Can Readily Comply**
C2.9	**Separation of Classification between Stories** Floor separating differing classifications must meet the FRL required for the upper level floor.	Floors separating classifications must achieve the required FRL (generally that of the lower storey) Architect and structural engineer to confirm proposed FRL of slabs. (CC stage).	**Can Readily Comply**
C2.10	**Separation of Lift Shafts** Where a lift connects or passes by more than 2 stories, or more than 3 stories in a sprinkler protected building, the lift must be contained in a fire rated lift shaft achieving an FRL of no less than: • Type A Construction – the shaft meets the FRLs specified in Table 3 of Spec C1.1 • Type B Construction - if loadbearing, the shaft meets the FRLs specified in Table 3 of Spec C1.1, if non-loadbearing, the shaft must be non-combustible. • Openings for lift landing doors and services must meet BCA Part C3.	Architect and structural engineer to confirm proposed FRL of lift shafts. (CC stage).	**Can Readily Comply**
C2.11	**Stairways & Lifts in One Shaft** 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.	The lift and stairs are not located in the same shaft.	**Complies**
C2.12	**Separation of Equipment** Certain equipment must be separated from the remainder of the building with 120/120/120 construction including lift motors & control panels, emergency generators	Any equipment specified under BCA C2.12 including lift motor rooms and control panels must be fire separated from the remainder of the building by 120/120/120 construction. A battery or battery system installed in the building that have a voltage exceeding 12 volts and a storage capacity of 200 kWh must be separated. Electrical engineer to confirm.	**Can Readily Comply**

Ph: 02 9387 4441 | PO Box 42 Bondi Junction NSW 1355
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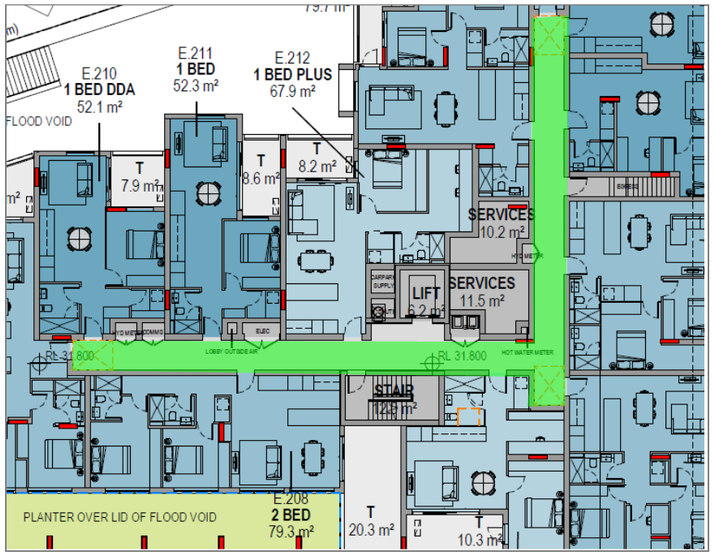
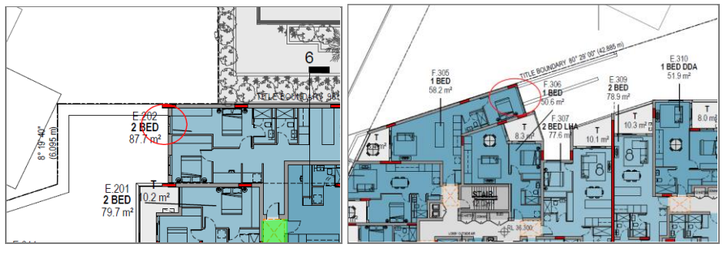
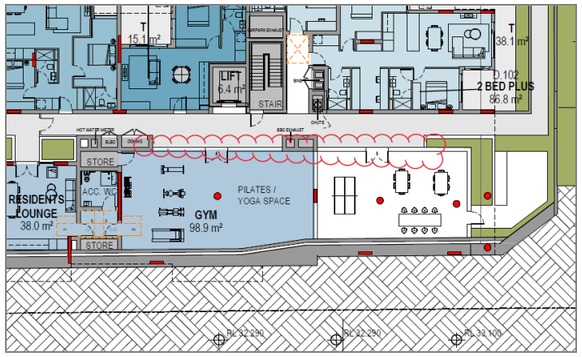
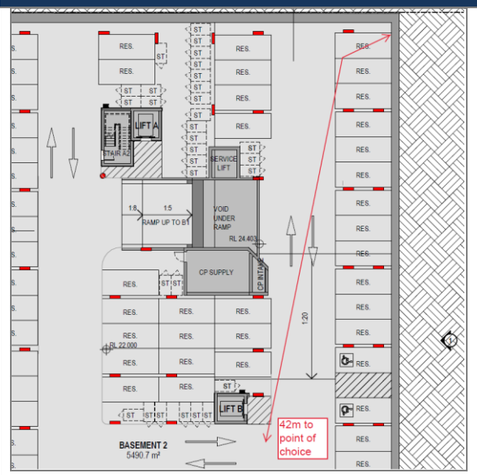
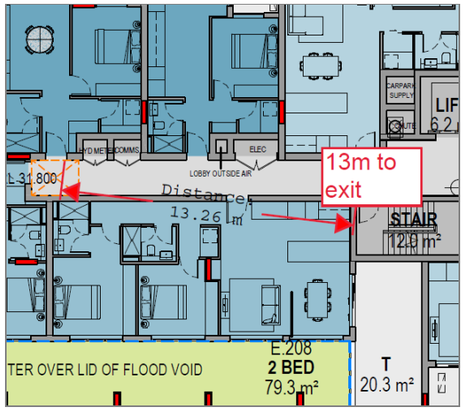
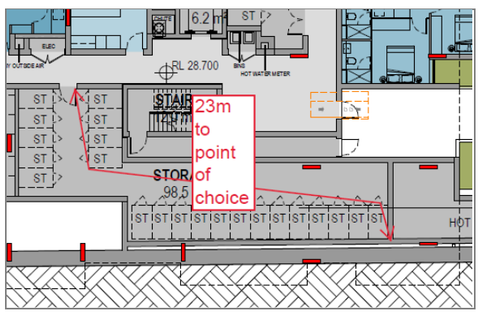
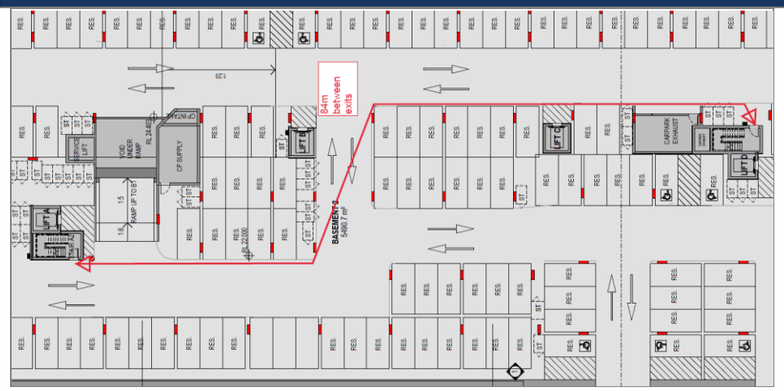
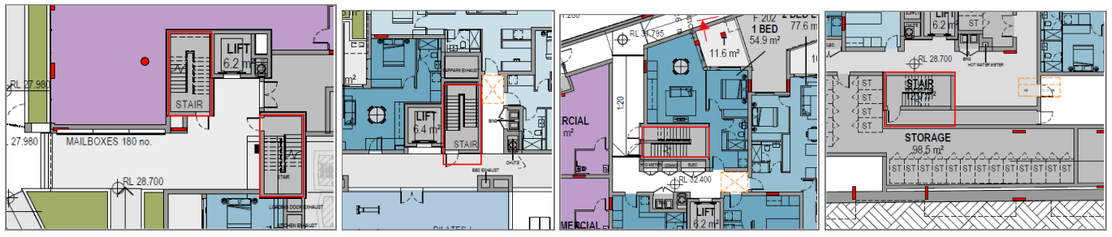
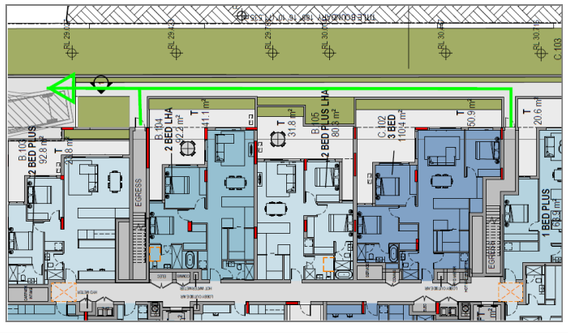
BCA Cl.	BCA Requirement	Compliance Comment	Status
	for emergency equipment, central smoke control plant, boilers, batteries and fire hydrant pumps.	Details of equipment and any required fire ratings to be provided	
C2.13	**Electricity Supply System** Electrical substation and main electrical switchboards must generally be separated from the remainder of the building by 120/120/120 construction.	Where electrical switchboards will harvest power for emergency equipment, they must be fire separated from the remainder of the building (and other general switchboards) by construction achieving an FRL of no less than 120/120/120.	**Can Readily Comply**
C2.14	**Public corridors in Class 2 & 3 Buildings** Where 'public corridors' in a Class 2 or 3 building exceed a length of 40m, they must be subdivided into smoke compartments (at intervals of not more than 40m).	There are some corridors in the class 2 parts which exceed 40m in length (refer to *example* below). These must be further subdivided into lengths of less than 40m by smoke proof construction (noting smoke doors are able to be held open with magnetics). Details can be provided at CC stage. 	**Can readily comply.**
Part C3 – Protection of Openings			
C3.2	**Protection of Openings in External Walls** Openings in an external wall that is required to have an FRL must be protected against the spread of fire (drenchers, fire rated glazing, fire shutters) if they are not less than: • 3m from a side or rear boundary of the allotment, or • 6m from the far boundary of a road, river lake or the like adjoining the allotment (except for ground level openings), or • 6m from another building on the same allotment • If required to be protected, must not occupy more than 1/3 of the area of the external wall of the storey in which it is located	Where openings in external walls are located less than 3m from the allotment boundary (other than the boundary adjoining a road), they will need to be provided with protective measures in accordance with BCA C3.4. Note that where windows are relied upon for natural ventilation, fire shutters will need to be considered. 	**Can readily comply.**
C3.3	**Separation of External Walls and Associated Openings in Different Fire Compartments** Distance (and angle) between external walls and associated openings in different fire compartments must be: **Angle Between Walls (Degrees)** / **Minimum Distance** 0 / 6m 0-45 / 5m	Generally NA to current design.	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
	<table><tr><td>45-90</td><td>4m</td></tr><tr><td>90-135</td><td>3m</td></tr><tr><td>135-180</td><td>2m</td></tr><tr><td>180 or more</td><td>NIL</td></tr></table> Concessions apply if those parts of each wall have an FRL of minimum 60/60/60, and any openings protected in accordance with C3.4		
C3.4	**Acceptable Methods of Protection** (a) Openings required to be protected under Clause C3.2 (or C3.3) above must be protected as follows: (i) Doorways— (A) internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or (B) /60/30 fire doors that are self-closing or automatic closing. (ii) Windows— (A) internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or (B) /60/ fire windows that are automatic closing or permanently fixed in the closed position; or (C) /60/ automatic closing fire shutters. (iii) Other openings— (A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or (B) construction having an FRL not less than /60/. (b) Fire doors, fire windows and fire shutters must comply with Specification C3.4.	Informational Clause only.	**Informational**
C3.5	**Doorways in Fire Walls** • The aggregate width of doorways in fire walls must not exceed ½ of the length of the fire wall. • The doorways can be protected with 1 or 2 doors to achieve the required FRL • Doors must be self or automatic closing	Details to be provided at CC Stage.	**Can readily comply**
C3.6	**Sliding Fire Doors** Sliding fire doors must automatically close in accordance with this clause and be provided with warning signage.	NA to current design.	**NA**
C3.7	**Protection of Doorways in horizontal exits** • Doors in horizontal exits must achieve the same FRL as that of the fire wall • Doors must be self or automatic closing	NA to current design.	**NA**
C3.8	**Openings if fire isolated exits** Doorways serving the fire isolated exit must be protected with a self-closing fire door achieving a FRL of not less than -/60/30. Where the window in the external wall of a fire isolated exit is within 6m and exposed to a window or other opening in a wall of the same building it must be protected externally in accordance with Clause C3.4.	Details to be provided at CC Stage.	**Can readily comply**
C3.9	**Service Penetrations in fire-isolated exits** Service penetrations in fire exits must comply with this clause. Generally, only electrical wiring and water supply pipes for fire services are permitted within the exits.	Details to be provided at CC Stage.	**Can readily comply**
C3.10	**Openings in Fire isolated lift shafts**	Details to be provided at CC Stage.	**Can readily comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
	• The entrance doorways must be protected with fire doors (achieving a FRL of not less than -/60/- which comply with AS1735.11 and are set to remain in the closed position (except when discharging or receiving passengers) • The lift indicator panels and the like must be backed with construction achieving a FRL of not less than -/60/60 – if it exceeds an area of 35,000mm^2		
C3.11	**Bounding Construction** • Applies to Class 2 and 3 buildings and Class 4 parts • The entrance doorways of the sole occupancy units, which open onto a public corridor must be protected with a self-closing fire door achieving a FRL of not less than -/60/30. • In a Class 2 or 3 building, where the path of travel to an exit does not provide a person seeking egress with a choice of travel in different directions to alternative exits and is along an open balcony, landing or the like and passes the external wall of another unit or other room, then that wall must be fire rated and openings protected internally. • Note NSW C3.11 Bounding Construction: Class 2, 3, 4 and 9b buildings	Details to be provided at CC Stage. Note that where rooms (not within SOU's) open into common corridors, the walls need to be fire rated and doors require fire doors. 	**Can readily comply**
C3.12 & C3.15 & C3.16	**Openings for Service Installations & Construction Joints** • Where services penetrate a building element required to have an FRL, the services must generally be protected against the spread of fire (mechanical with dampers, hydraulic with collars and electrical with fire rated mastic). Alternatively, a fire rated shaft can be provided through floors if desired. • All cable penetrations through floors or fire walls must be fire stopped in accordance with BCA C3.15 and AS1530.4. • Fire-rated mastic or other approved product tested to AS1530.4 is required to seal gaps in fire rated construction.	Details to be provided at CC Stage.	**Can Readily Comply**
C3.17	**Columns protected in lightweight construction to achieve FRL** Columns protected in lightweight construction which penetrate a building element required to achieve a FRL or a RISF must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or RISF.	Details to be provided at CC Stage.	**Can Readily Comply**

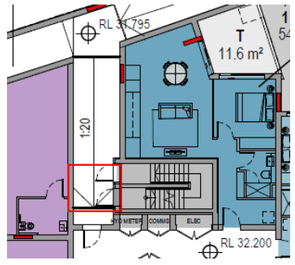
BCA Cl.	BCA Requirement	Compliance Comment	Status
Section D – Access & Egress			
Part D1 – Provision for Escape			
D1.2	**Number of Exits Required** At least one exit must be provided from each storey of every building At least 2 alternative exits must be provided from: • Every storey of a building which has an effective height of more than 25m • Basement storeys where egress from the building involves a vertical rise of 1.5m or more (some small basements provided with an exemption) • Class 8 buildings with a rise in storeys of more than 6 • A storey which contains a 'patient care area' • A storey which contains sleeping areas in a Class 9c building • Every storey in a childcare centre • Each storey of a primary/secondary school with a rise in storeys of 2 or more • Any storey in a Class 9 building which accommodates more than 50m • Additional requirements apply to Class 9a and 9c buildings and to open spectator stands. • Egress is not permitted to be provided through another sole occupancy unit.	The building is provided with compliant number of exits from each storey.	**Complies**
D1.3	**When Fire Isolated Exits Are Required** Exits are required to be fire isolated depending on the Classification of the building and number of storeys connected. The following general requirements apply (exits are required to be fire isolated in the following circumstances): • Class 2 buildings – > 3 consecutive storeys • Class 3 buildings – > 2 consecutive storeys • Class 5-9 buildings (> 2 consecutive storeys) • Class 9a (patient care parts) & 9c buildings – all exits to be fire isolated. Note D1.7 in relation to discharge of exits.	Exits appear to be fire isolated as required.	**Complies**
D1.4	**Exit Travel Distances** • Class 2 & 3 buildings ○ The distance between the entrance door of a Sole Occupancy Unit (SOU) and an exit or Point of Choice (POC) to 2 alternative exits must not exceed 6m (20m on ground floor) ○ From all parts not in a SOU – 20m to exit or POC • Class 4 buildings – entrance door of SOU to exit or POC must not exceed 6m • Class 5, 6, 7, 8 or 9 buildings – 20m to exit or POC • Additional requirements apply to Class 9 buildings, and open Spectator stands	The following travel distance issues are noted and are proposed to be addressed via performance solution: Note plan extracts show examples only and are not intended to identify all travel distance issues. *Basement levels* • Points on the floor more than 20m from an exit or point of choice • Points in the floor more than 40m from the nearest exit via a point of choice.	**Performance Solution Required**

BCA Cl.	BCA Requirement	Compliance Comment	Status
		 Residential levels • SOU entry doors >12m from an exit or point of choice  Storage Areas (Ground floor) • Points on the floor more than 20m from an exit or point of choice 	
D1.5	**Distance Between Alternative Exits** • BCA requires that where exits are provided as 'alternative' should be distributed as uniformly as possible around the storey.	Basement Levels – alternative exits are more than 60m apart are proposed to be addressed via performance solution. Note plan extracts show examples only and are not intended to identify all travel distance issues.	**Performance Solution Required**

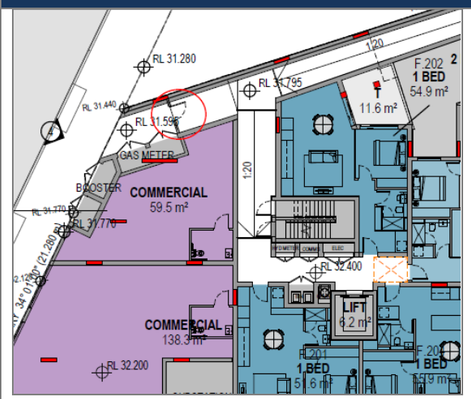
BCA Cl.	BCA Requirement	Compliance Comment	Status
	• Alternative exits must: • Be not less than 9m apart • Be not more than 45m apart in a Class 2 or 3 building (or patient care area in a Class 9a building) • Be not more than 60m apart in any other case • Be located so that alternative paths of travel do not converge to be less than 6m apart.		
D1.6	**Dimensions of Exits & Paths of Travel to Exits** • A minimum 1m egress path of travel must be provided, which can be reduced to 750mm at doorways (850mm for accessibility). • Appropriate aggregate exit width must be provided or maintained in the building to allow for safe egress of the building populations. • Exits should not diminish in width in the direction of travel / egress.	Details to be provided at CC stage.	**Can Readily Comply**
D1.7	**Travel via Fire Isolated Stairs** • Doors from rooms must not open directly into a fire isolated exit (unless the room is a public corridor, lobby, SOU occupying the whole of storey, or sanitary compartment. • Fire isolated exists must provide independent egress from each storey served and discharge directly to: ○ A road or open space ○ A covered area of the building which is suitably open • Where a path of travel from a fire isolated exit involves passing within 6m of the external wall of the building, the external wall must be fire rated and openings protected in accordance with BCA C3,4.	The discharge of the fire exits is proposed to be addressed via performance solution. The following issues will need to be addressed: • There are fire isolated exits discharge internally or into a covered areas (not in accordance with BCA D1.7).  • The external path of travel from the exits to the street involves passing within 6m of external (& associated unprotected openings) wall of the building. 	**Performance Solution Required**
D1.8	**External Stairways or ramps in lieu of Fire Isolated Stairs** This clause permits external stairways to be used in lieu of fire isolated exits – providing the external stairs are suitably protected.	NA to subject design.	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
D1.9	**Travel Via Non-Fire Isolated Stairs & Ramps** • Non-fire-isolated exits serving as a required exit must provide a continuous measure of travel by its own flights and landings to the level at which egress to a road or open space is provided. • The distance between the doorway of an SOU and the point of egress to a road or open space must not exceed – 30m (Type C construction) or 60m in any other case. • The distance between any point on the floor and the point of egress to road/open space in a Class 5, 6, 7, 8 or 9 building must not exceed 80m. • The distance between the point of discharge of a non-fire isolated stair and a doorway leading to road open space must not exceed 15m for Class 2 or 3 buildings, or 20m for Class 5, 6, 7, 8 or 9 buildings • In Class 2 or 3 buildings – non-fire isolated exits must provide separate egress to road/open space and be smoke separated at the level of discharge.	NA on the basis that all stairs will be 'fire isolated'.	**NA**
D1.10	**Discharge of Exits** • Exits from the building must be provided with an unobstructed path of travel to the street. Where exits discharge at a level that is different to the street level, compliant stairs and ramps must be provided to the street. • Where necessary, exits must be provided with suitable barriers or bollards to prevent vehicles blocking them.	Compliance achievable, with further details to be provided at CC stage.	**Can readily comply**
D1.11	**Horizontal Exits** • Horizontal exits must not be used between SOUs or from a childcare centre or primary/secondary school. • Sufficient space must be allocated on either side of the fire wall serving as a horizontal exit. • Additional requirements apply in Class 9a or 9c buildings.	NA to subject design.	**NA**
D1.12	**Non-required Stairways, Ramps or Escalators** An escalator, moving walkway or non-required non-fire-isolated stairway or pedestrian ramp must not connect more than 2 consecutive stories, or 3 consecutive stories in a sprinklered building where one storey is at the level of open space.	There are no non-required stairways, ramps or escalators proposed or affected under the project scope.	**NA**
D1.13	**Number of Persons Accommodated** The number of persons accommodated on each storey can be determined by using the estimates based on floor area in Table D1.13.	Informational clause to calculate populations where they are not otherwise known.	**Informational**
D1.14 & D1.15	**Measurement of Distances & Method of Measurement** Provides details for how to measure distances for exits.	Informational clause only.	**NA**
D1.16	**Plant Rooms and lift Motor Rooms: Concession** Provides concessions for egress requirements in certain plantrooms.	Informational clause only.	**NA**
D1.17	**Access to lift pits** Provides requirements /concessions relating to access to lift pits	Lift pits not currently indicated.	**NA**
Part D2 - Construction of Exits			
D2.1	**Application of Part** With the exception of certain clauses (relating to stair construction, handrails, balustrades, door hardware and window fall protection, this Part does not apply to the internal parts of a SOU in residential buildings – to be noted.	Informational clause only.	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
D2.2	**Fire-Isolated stairways and ramps** The fire isolated stairs must be of non-combustible construction and be design such that if there is local failure it will not cause structural damage to or impair the fire resistance of the shaft.	It is recommended that the **structural engineer** provide confirmation that the design meets the requirements of this clause (i.e. if there is local failure it will not cause structural damage to or impair the fire resistance of the shaft) – at CC stage.	**Can Readily Comply**
D2.3	**Non-Fire Isolated Stairways & Ramps** Must generally be concrete, steel or 44mmm timber.	NA to subject design.	**NA**
D2.4	**Separation of Rising and Descending Stairs** In a fire isolated stair, rising and descending stair flights must be physically separated by non-combustible smoke proof construction.	The current plans do not appear to show the proposed separation of the rising and descending stair flight in the stair below. It is assumed that a performance solution is proposed to address this issue. 	**Performance Solution Required**
D2.5	**Open Access ramps and balconies** Provides requirements for open Access ramps/balconies which are provided to meet smoke hazard management requirements of BCA E2.2a.	NA - There are no open access ramps or balconies required to be provided for smoke hazard management.	**NA**
D2.6	**Smoke Lobbies** Provides requirements for smoke lobbies (where required by BCA D1.7.	NA- smoke lobbies are not required to be provided under this clause.	**NA**
D2.7	**Installations in the Path of Travel** • Electrical distribution and telecommunications, boards etc. where located in a path of travel to an exit, must be enclosed in non-combustible construction, with openings suitably smoke sealed. • Gas services must not be located in a required exit • Wiring associated with fire, security, lighting may be installed in a fire isolated exit • Access to service shafts (other than for fire services) must not be provided from a fire isolated exit.	Where located in the path of travel to an exit, switchboards and DBs & Comms must be suitable smoke sealed (details can be provided at CC stage).	**Can Readily Comply**
D2.8	**Enclosure of Space Below Stairs** Enclosed cupboards must not be installed in fire isolated stairs and if installed under non-fire isolated stairs must be fire separated with 60/60/60 walls & ceilings with self-closing -/60/30 fire doors.	Where under stair areas are enclosed, they must be fire rated in accordance with this clause. Any cages must be at least 50% open to not be considered 'enclosed' and avoid fire rating under this clause.	**Can Readily Comply**
D2.9	**Width of Required Stairways & Ramps** A stair or ramp wider than 2m only counts as 2m for aggregate exit width purposes if there is no dividing handrails.	Informational.	**Informational**
D2.10	**Pedestrian Ramps** • Fire isolated ramps may be used in lieu of fire isolated stairways	Accessible ramps to meet AS1428.1, general pedestrian ramps to be no steeper than 1:8. Details to be provided at CC stage.	**Informational** *Refer to DDA Report*

BCA Cl.	BCA Requirement	Compliance Comment	Status
	• Ramps must not exceed a grade of 1:14 where required to be 'accessible', or 1:8 in any other case. • Ramp surface must be slip resistant.		
D2.11	**Fire-Isolated Passageways** Fire isolated passageways must generally achieve a FRL consistent with the stair/ramp to which it is connected OR 60/60/60 in any other case.	Details to be provided at CC stage.	**Can Readily Comply**
D2.12	**Roof as Open Space** If an exit discharges to the roof of a building, the roof must achieve a FRL of 120/120/120 and not contain any openings/rooflights etc within 3m of the path of travel.	The roof of the basement (in part) is relied upon as 'open space'. Details confirming slab FRL and no openings within 3m of the path to be provided at CC stage.	**Can Readily Comply**
D2.13	**Goings & Risers** To satisfy BCA D2.13, a stairway must have— • Not more than 18 and not less than 2 risers in each flight • Going/riser/quantity dimensions in accordance with BCA Table D2.13 • Constant riser/going dimensions (variation 5mm between treads and 10mm overall permitted) • Required exits must not contain winders in lieu of a quarter landing (up to 3 winders in a quarter landing are permitted in non-required stairs and in residential SOUs') • Solid treads required where stair exceed 10m in height or 3 storeys • No openings that would allow a 125mm sphere to pass through • Slip resistant treads or nosings • Where consecutive flights contain more than 36 risers in a Class 9b building, the stair must contain a minimum 30 degree change in direction. • Bottom riser may vary when meeting a public road only	Details to be provided at CC stage.	**Can Readily Comply**
D2.14	**Landings** Landings at least 750mm long must be provided to divide stairs into flights no greater than 18 and be no steeper than 1:50 & be slip resistant as per BCA Table D2.14	Details to be provided at CC stage. Attention should be paid to the doorways form the fire stairs shown below (a landing should be provided outside with a max grade of 1:40) 	**Can Readily Comply**
D2.15	**Thresholds** A doorway must generally not contain a step or ramp within the door threshold unless it is leading externally, and the step is no greater than 190mm (except on accessible paths where no step is allowable).	Details to be provided at CC stage.	**Can Readily Comply**
D2.16	**Barriers to Prevent Falls** • The following general requirements are applicable • Balustrades to balconies and landings must be not less than 1,000mm in height • Balustrades to the sides of stairs must be not less than 865mm high, measured along the nosing line	Details to be provided at CC stage.	**Can Readily Comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
	• Balustrades must not have any openings which would allow a 125mm sphere to pass through • Balustrades serving a floor which is more than 4m above the surface beneath must not incorporate 'climbable elements' in the zone between 150mm and 760mm above the floor • Balustrades are also required to operable windows where the sill height is less than 865mm and it is possible for a person to fall more than 4m. • Balustrades in fire isolated stairs must comply with BCA Clause D2.16 (g) & (h) (i) (no opening >300mm & where rails are used the rail must not permit a 150mm sphere to pass through the nosing line and the bottom rail, openings between rails not to exceed 460mm)		
D2.17	**Handrails** • A handrail is required to at least one side of every stairway or ramp (and to both sides where the stair has a width of 2m or more) • Handrails must be at a height of not less than 865mm above the stair nosing line (additional handrail at 665-750mm to be provided in primary schools) • The handrail must be continuous between stair flight landings and have no obstructions that will tend to break a hand-hold (except for newel posts, ball type sanctions or the like). • Handrails required to assist people with disabilities must comply with BCA D3.3. • In a required exit, the handrail must comply with Clause 12 of AS1428.1. This typically requires the handrail to have a continuous height to the stair nosing line & around landings, and also incorporate extensions/terminations at the top and bottom as per AS1428.1. • Additional requirements apply to Class 9a and 9c buildings	Details to be provided at CC stage.	**Can Readily Comply**
D2.18	**Fixed Platforms, Walkways, Stairways & Ladders** Informational clause only noting fixed platforms, walkways and ladders for Access can be in accordance with AS1657 to service/plant areas or in low-use areas in a residential SOU.	Details to be provided at CC stage.	**Can Readily Comply**
D2.19	**Doorways & Doors** • Doors in required exits must not be fitted with roller shutters/tilt up doors (except in Class 6-8 SOUS with a floor area of not more than 200m^2, and where only one exit is required, and the door is held open when in use. • Doors in required exits must not be sliding unless the door leads directly to road/open space (and can be manually opened with force less than 110 N) • Where power operated doors are provided they must open automatically on power failure or fire alarm trip. • Additional requirements apply to Class 9a and 9c buildings.	Exit doors (where shown) are swinging as required.	**Complies**
D2.20	**Swinging Doors** • Doors gates serving as a required exit for public areas should typically swing in the direction of egress and must generally not impede egress paths. • Doors can swing against the direction of egress if serving building areas less than 200m^2, are the only exit and a hold-open device is provided to the door.	Some exit doors do not appear to swing in the direction of egress as shown in plan extract below. Where these cannot be re-swung a performance solution will need to be considered (note redesigns should be checked with the accessibility/DDA consultant)	**Can readily comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
			
D2.21	**Operation of Latch** • Exit doors and doors in a path of travel to an exit must generally be readily operable without a key from the side that faces a person seeking egress by a single handed downward action or pushing action on a single device which is located between 900mm and 1100mm above the floor. • Some concessions are provided to certain buildings – including doors in a residential SOU, childcare centers, banks, jails, metal health facilities. Doors which open automatically on the activation of a fire trip are also provided with a concession under this clause. • Additional requirements apply to assembly buildings accommodating more than 100 people (which generally requires that panic bars be provided)	Details to be provided at CC stage.	**Can Readily Comply**
D2.22	**Re-entry from Fire isolated exits** Doors in fire isolated exits in Class 9a/9c buildings and buildings with an effective height exceeding 25m must not be locked from the inside of the exit. Some exemptions can be applied where security measures are implemented.	NA to subject design	**NA**
D2.23	**Signs on Doors** Signage must be provided to fire exit doors.	Details to be provided at CC stage.	**Can Readily Comply**
D2.24	**Protection of openable windows** This clause applies to all windows serving a bedroom in the Class 2/3/4 buildings and in Class 9b buildings. Where the window (serving a floor more than 2m from the surface beneath) has a sill height of less than 1.7m, the openable portion of the window must be fitted with: • A device to restrict the window openings; or • A screen with secure fittings *(refer to Clause D2.24 for requirements)* • Note balustrading may also be required to windows.	Details to be provided at C stage.	**Can Readily Comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
Section E – Services & Equipment			
Part E1 – Fire Fighting Equipment			
E1.3	**Fire Hydrants** Fire hydrant coverage meeting AS2419.1 must be confirmed / provided: • to new buildings or new parts that are over 500m^2 in total floor area • to any additional floor area in an existing building that is already provided with hydrant coverage *Note: Hydrant coverage for train fires is beyond the considerations of the BCA though may require consideration under any Fire & Life Safety Report*	Design details and certification to be provided by hydraulic consultant at CC stage. It is noted that the building is proposed to be provided with 2 independent fire hydrant systems (This will require a performance solution by the fire engineer)	**Performance Solution Required**
E1.4	**Fire Hose Reels** Where the building is provided with an internal fire hydrant system or incorporates a fire compartment with a floor area of more than 500m^2, it must be provided with a fire hose reel system in accordance with BCA E1.4 and AS2441. Note that fire hose reels are not required in a: • Class 2/3/4 building • Class 8 electrical substation • Class 9c building • Class 9b primary or secondary school Classrooms/corridors.	Design details and certification to be provided by hydraulic consultant at CC stage. Note hose reels *not* required in the class 2 or 5 parts.	**Can Readily Comply**
E1.5	**Sprinklers** A building must be provided with a sprinkler system complying with BCA E1.5, Specification E1.5 (& 1.5a) and AS2118.1 - where required by BCA Table D1.5. The following buildings typically required sprinkler systems: • Class 2 or 3 buildings with a rise in storeys of more than 3 • Buildings with an effective height of more than 25m • Class 3/9a buildings used as residential aged care • Class 6 buildings with floor area of more than 3,500m^2 or volume of 21,000m^3 • Class 7a (non-open deck) carparks accommodating more than 40 vehicles • Certain Class 9b buildings, large isolated buildings and containing an atrium • Buildings with a floor area of more than 2000m^2 or volume of more than 12,000m^3 and containing an 'excessive hazard'.	A sprinkler system is required throughout. Design details and certification to be provided by hydraulic consultant at CC stage The carpark sprinkler system must comply with AS2118.1 BCA E1.5 allows a variety of systems to be provided in the residential part (with certain concessions available depending on the type of sprinkler system installed).	**Can Readily Comply**
E1.6	**Portable Fire Extinguishers** Portable fire extinguishers are required to serve Class A-Class E fire under BCA E1.6 & AS2444. They are not required for Class A fire where fire hose reels are otherwise provided.	Design details and certification to be provided by hydraulic/fire services consultant at CC stage.	**Can Readily Comply**
E1.8	**Fire Control Centres** Fire control centres are typically required to buildings >25m in Effective Height or floor area of >18, 000m^2 in accordance with BCA E1.8 & Spec E1.8.	NA - Fire control centre not required.	**NA**
E1.9	**Fire Precautions During Construction** Portable fire extinguishers must be provided during construction.	To be noted during construction.	**Informational**
E1.10	**Provision for Special Hazards** Additional PFEs may be required should the building contain special hazards.	It is assumed that the building will not incorporate any additional hazards.	**NA**

BCA Cl.	BCA Requirement	Compliance Comment	Status
BCA Part E2 – Smoke Hazard Management			
Part E2	**Smoke Hazard Management** Smoke Hazard Management must be provided per Table E2.2a and E2.2b depending on the class, rise in stories and nature of the building design. Class 9b buildings with mechanical air-handling systems that are ducted or exceed 1000l/s must shutdown in the event of smoke detector activation. Smoke detection per AS1670.1 can be required to allow exit / egress doors to unlock in the event of emergency under BCA D2.21.	The following smoke hazard management systems are required: (Design details and certification to be provided by electrical/fire services consultant at CC stage). 1. Automatic fire detection and alarm system as per BCA Spec E2.2a 2. Mech system in basement carpark to generally comply with Clause 5.5 of AS1668.1	**Can Readily Comply**
E2.3	**Provision for Special Hazards** Suitable additional provision must be made for smoke hazard management where it is considered that the building incorporates a *special hazard*.	It is assumed that the building will not incorporate any additional hazards.	**NA**
Part E3 – Lift Installations			
E3.1	**Lift Installations** Electrical passenger lifts and electrohydraulic passenger lifts must comply with BCA Spec E3.1	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.2	**Stretcher Facilities in Lifts** Where serving a level >12m in effective height, the lift must contain a portion within the internal car dimensions that is 2000mm (deep) x 600mm (wide) to allow for stretcher facilities.	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.3	**Warning Against the Use of Lifts in Fire** A warning sign must be provided near the lift call buttons stating "DO NOT USE LIFTS IF THERE IS A FIRE".	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.4	**Emergency Lifts** Emergency lifts are typically required to buildings >25m in effective height.	NA – building less than 25m in effective height.	**NA**
E3.5	**Lift Landings** Access and egress from lift landings must comply with BCA Section D.	Egress from lift landings appears generally compliant.	**Complies**
E3.6	**Passenger Lifts** In an accessible building, every passenger lift must be one of the types referred to in Table E3.6a and contain all features specified in Table E3.6b.	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.7	**Fire Service Controls** Fire service controls are required to lifts serving >12m in effective height including a fire service recall switch per BCA E3.9 and lift car fire control per BCA E3.10 – see below.	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.9	**Fire Service Recall Control Switch** Fire service recall controls are required at each lift bank where serving an effective height greater than 12m in accordance with this clause.	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**
E3.10	**Lift Car Fire Service Drive Control Switch** Lift car fire service control switches must be provided in accordance with this clause where serving an effective height greater than 12m.	Lifts to comply – details to be provided at CC stage.	**Can Readily Comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
Part E4 – Visibility in an Emergency, Exit Signs & Warning Systems			
E4.2, E4.4	**Emergency Lighting** Emergency lighting must generally be provided throughout stories greater than 300m^2, and above all required exit stairs and ramps per AS2293.1.	Design details and certification to be provided by electrical/fire services consultant at CC stage.	**Can Readily Comply**
E4.5, E4.6 & E4.8	**Exit & Directional Signs** Illuminated exit signs is required above all exit doors, stairs and final exit points and where the exit isn't readily apparent, directional exit signage is required per AS2293.1.	Design details and certification to be provided by electrical/fire services consultant at CC stage.	**Can Readily Comply**
E4.9	**Sound System & Intercom Systems for Emergency Purposes** A sound system and intercom system for emergency purposes complying where applicable with AS 1670.4 must be installed to station buildings with an Effective Height >25m.	NA to subject building.	**NA**
Section F – Health & Amenity			
Part F1 – Damp & Weatherproofing			
F1.1	**Stormwater Drainage** Stormwater drainage must comply with AS3500.3	Details demonstrating compliance are to be included in the design documentation at CC stage.	**Can Readily Comply**
F1.4	**External Above Ground Membranes** Waterproof membranes for external above ground use (balconies, terraces etc) must comply with AS4654 Parts 1&2.		
F1.5	**Roof Coverings** Roof covering must comply with the following: • AS2049 - 2002 *Roof Tiles;* and/or • AS/NZS 2908 - 2000 parts 1 and 2 *Cellulose cement products*; and/or • AS/NZS 1562.2 - 1999 *Design and installation of sheet roof and wall cladding – corrugated fibre-reinforced cement* and/or • AS1562.1 - 1992 *Design and installation of sheet roof and wall cladding –metal* and/or • AS/NZS 4256 - 2012 parts 1, 2, 3 and 5 – *Plastic roof and wall cladding material* • AS1562.3 – 1996 *Design and installation of sheet roof and wall cladding –plastics* and/or • ASTM D3018-90 – 1994 , Class A ashphalt shingles surfaced with mineral granules		
F1.6	**Sarking** Must comply with AS/NZS4200-1994 Parts 1 & 2.		
F1.7	**Waterproofing in Wet Areas of Buildings** Internal waterproofing to comply with AS3740-2010.		
F1.9	**Damp-proofing** To comply with AS/NZS 2904-Damproof courses and flashings.		
F1.10	**Damp-proofing of Floors on Ground** To comply with AS2870 – 2011 Residential slabs and footings.		

BCA Cl.	BCA Requirement	Compliance Comment	Status
F1.12	**Sub-Floor Ventilation** Subfloor ventilation openings must be provided to the underside of suspended floors in accordance with this requirement.		
F1.13	**Glazed Assemblies** *See BCA B1.4*		
Part F2 – Sanitary & Other Facilities			
F2.1	**Facilities in residential buildings** Facilities must be provided to residential buildings as follows: • Class 2, 4 & 9c buildings – kitchen, bath/shower, WC, washbasin & laundry facilities + WC & washbasin for employees where >10 SOU's are provided • Class 3 buildings – bath/shower	Appropriate facilities appear to be proposed in each residential unit (on the assumption that each unit will be provided with laundry tub and space of washer/dryer)	**Complies**
F2.2	**Calculation of number of occupants and fixtures** • Number of occupants to be calculated as per BCA D1.13 • Sanitary facilities to be generally provided assuming a 50:50 male:female split • A unisex accessible sanitary facility can be counted once for each sex	Informational clause only.	**Informational**
F2.3	**Facilities for Class 3 to 9 Buildings** Facilities to be provided in accordance with BCA F2.3 and Table F2.3, noting: Separate facilities typically required for males and female Separate facilities required for staff and student in schools Specific kitchen, laundry and bathing facilities required to be provided in Class 9a buildings Specific facilities are required to be provided in child care centres – including junior toilet pans & basins, kitchen facilities, laundry facilities and nappy changing benches	A single (accessible) WC is provided in each commercial tenancy. This is suitable for up to 10 staff members in each tenancy (additional facilities may be required depending on the final use of the tenancy – e.g. cafes or restaurant uses may trigger the need for facilities for patrons to be provided).	**Can Readily Comply**
F2.5	**Construction of Sanitary Compartments** Sanitary compartments (except in child care centres) must have doors and partitions to provide privacy In enclosed sanitary compartments, where the distance between the closet pan and the nearest part of the doorway of an inwards swinging door is less than 1.2m, the door must be fitted with lift off hinges.	Details to be provided at CC stage.	**Can Readily Comply**
F2.6	**Interpretation: Urinals and washbasins** • Urinals may be individual stalls or a length of 600mm in a trough • A closet pan may be used in lieu of a urinal • Washbasins may be single basins or part of a trough provided with a tap	Informational clause only.	**Informational**
BCA Part F3 - Room Heights			
F3.1	**Height of Rooms & Other Spaces** BCA requires that all public habitable areas must be typically: - 2700mm for public areas in a Class 9b building with >100 occupants - 2400mm generally for habitable rooms - 2100mm for non-habitable rooms - 2000mm above stairs and ramps	Sections and elevations should indicate the internal ceiling heights of each story – scaled dimensions indicate general compliant is archived .	**Can Readily Comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
BCA Part F4 - Light & Ventilation			
F4.1	**Provision of natural light** Natural light is required to be provided to habitable/sleeping rooms in Class 2, 3, 4 and 9 buildings	Architect to confirm that each habitable room is served by a window providing an aggregate light transmitting area of not less than 10% of the room.	**Can Readily Comply**
F4.2	**Methods and extent of natural lighting** Natural light must be provided from: • Windows (with an aggregate light transmitting area of not less than 10% of the floor area of the area which they serve);or • Skylights with an aggregate light transmitting area of not less than 3% of the floor area of the area which they serve; or • A combination of both Windows must typically be setback from the boundary/wall of the building or other building on the allotment: • Generally at least 1m (or 3m for sleeping rooms in a Class 9a building) • 50% of the square room of the height of the wall in which the window ins located. I.e. the higher the wall the greater the setback required. Note in Class 9b childcare centres, at least 50% of the windows must have sill height not greater than 500mm from the floor level.	Architect to confirm that each habitable room is served by a window providing an aggregate light transmitting area of not less than 10% of the room.	**Can Readily Comply**
F4.3	**Natural light borrowed from adjoining room** This clause allows natural light in Class 2-4 buildings to be borrowed from an adjoining room. The room providing the borrowed light must be provided with windows which have a light transmitting area of at least 10% (or skylights with an area or 3%) of the combined floor area of both rooms.	NA to subject design (assumed).	**NA**
F4.4	**Artificial Light** Artificial lighting is required to all newly created or affected areas in accordance with BCA F4.4 and AS1680.0.	Lighting to AS1680.0 required to all affected areas. Subject to certification from the design engineer.	**Can Readily Comply**
F4.5	**Ventilation of Rooms** A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural light amounting to 5% of the floor area of the room served or mechanical ventilation complying with AS/NZS 1668.2.	Details to be provided at CC stage (mechanical consultant to provide design certification)	**Can Readily Comply**
F4.6	**Natural Ventilation** Natural ventilation must constitute 5% of the floor area of the area serving and open to a suitable outdoor, covered open area or adjacent shared room with suitable natural ventilation openings.	Details to be provided at CC stage (mechanical consultant to provide design certification)	**Can Readily Comply**
F4.7	**Ventilation borrowed from adjoining room** Natural ventilation can be borrowed from an adjoining room providing adjacent room is provided ventilating area that is 5% (or 10% in Class 5-9 buildings) of the both the subject room and the adjoining room combined.	NA to subject design (assumed).	**NA**
F4.8	**Restriction of position of water closets and urinals** Generally sanitary compartments must not open directly into: • A kitchen, pantry, public dining area or restaurant • Dormitory in a Class 3 building • Room used for public assembly • Workplace normally occupied by more than 1 person *Note comments in F4.9 below.*	Details to be provided at CC stage.	**Can Readily Comply**

BCA Cl.	BCA Requirement	Compliance Comment	Status
F4.9	**Airlocks** Airlocks can be used between a sanitary compartment and area described in BCA F4.8 above. In a Class 5-9 building, airlocks must have a floor area of at least 1.1m^2 and be fitted with self-closing doors. Alternatively, the sanitary compartment must be provided with mechanical exhaust and the doorway suitably screened from view.	Details to be provided at CC stage.	**Can Readily Comply**
F4.11	**Carparks** Every storey of a carpark (except open deck) must be provided with mechanical ventilation complying with AS1668.2 or natural ventilation complying with AS1668.4.	Details to be provided at CC stage (mechanical consultant to provide design certification)	**Can Readily Comply**
F4.12	**Kitchen Local Exhaust** Commercial kitchens must have exhaust hoods complying with this clause and AS1668.1 & AS1668.2.	NA as there are no commercial kitchens proposed or affected.	**NA**
Part F5 - Sound Transmission & Insulation			
Part F5	**Sound Transmission and Insulation** This part applies to Class 2, 3 & 9c buildings and provides the requirements for sound insulation must be provided between sole occupancy units (and between units and other parts of the building).	Details to be provided at CC stage (acoustic consultant to provide design certification)	**Can Readily Comply**
SECTION G **ANCILLARY PROVISIONS**			
Part G1 **Minor Structures & Components**			
G1.3	**Outdoor play spaces** (a) Any outdoor play space in a Class 9b early childhood centre must be enclosed on all sides with a barrier which complies with AS 1926.1. (b) For the purposes of (a), AS 1926.1 is applied as if there is a swimming pool located outside the outdoor play space, so that the barrier restricts children from exiting the premises without the knowledge of staff in the centre. (c) The requirements of (a) do not apply to a wall, including doors and windows, which form part of the Class 9b early childhood centre.	NA to subject building	**NA**
NSW G1.101	**Provision for cleaning windows** (a) A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level. (b) A building satisfies (a) where— (i) the windows can be cleaned wholly from within the building; or (ii) provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	Details to be provided at CC stage.	**Can Readily Comply**

7.0 Conclusion

This report assesses the **Development Application Level Design** for the proposed **Proposed Mixed-Use Building at 4 Delmar and 812 Pittwater Road, Dee Why** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

Subject to compliance with the recommendations of this report, the development can readily comply with the relevant requirements of the BCA. Recommendations have been identified as follows:

- Significant BCA matters, being those with the ability to affect the design have been included in Table 1.0 below and in the Executive Summary.
- A BCA Compliance Schedule suitable for the current level of design is also contained in in Table 6.0 of this report.

Attachment A – Summary of Fire Resistance Levels

The following is a summary of the required fire resistance levels of typical buildings elements. Refer to BCA Specification C1.1 for full details.

Element	FRL & Comment
Floor	As per Tables 3, 4 & 5 of BCA Spec C1.1 Note requirements for non-combustibility of certain elements.
Loadbearing Walls/Columns	
Roof	
Internal loadbearing Walls & Internal Columns	
External walls & Associated Columns	
Service Risers	Where service penetrations are contained within a shaft (and not protected against the spread of fire where penetrating the fire rated floor), the shaft must achieve an FRL of no less than 30/30/30 to comply with BCA C3.12.
Separation of Equipment	Where provided, emergency generators, boilers, batteries and lift motor rooms and equipment otherwise specified in BCA Clause C2.12 are required to be fire separated by 120/120/120 construction.
Main Electrical Switchrooms, substations	Where provided, 120/120/120 FRL
Comms Rooms	Where provided, there is no specific FRL required for Comms rooms, but they must be suitably smoke sealed in accordance with BCA Clause D2.7 “Installations in the Path of Travel”.
Rooms Under Stairs	Where provided, Enclosed rooms under stairs must be provided with 60/60/60 walls and ceilings with -/60/30 self-closing doors.
Service Penetrations	All service openings through fire/smoke rated construction must also be fire or smoke rated as appropriate per BCA C3.15 and BCA D2.7.

Attachment B – Assessed Plans

Insert Plan Transmittal

Ph: 02 9387 4441 | PO Box 42 Bondi Junction NSW 1355
info@msaconsultants.com.au | www.msaconsultants.com.au