

Building Code of Australia

Design Compliance Report

Proposed residential development

195-197 Sydney Road, Fairlight NSW

Report Number & Revision:	MSA1822_REV02
Prepared For:	Micronest Pty Ltd
Date of Issue:	05.10.2018



Contents

1.0	INTRODUCTION	6
	 Basis of Report Assessed Information Purpose of Report Limitations of Report 	
2.0	BUILDING CHARACTERISTICS	8
3.0	BCA / ACCESS ASSESSMENT + RECOMMENDATIONS	9
4.0	CONCLUSION	44
	ATTACHMENT A - ASSESSED PLANS	

Revision History & Quality Management

REPORT NUMBER	REV	STATUS	DATE
MSA1822	00	DA Draft for comment	05.09.2018
MSA1822	01	Issue for DA	20.09.2018
MSA1822	02	Minor Revisions	05.10.2018
ROLE	NAME + SIGNATURES	CREDENTIALS	
Written By:	Paul O'Shannassy ASSOCIATE	Building Code, Access & Fire Safety Consultant Grade 1 - Accredited Building Certifier / PCA Building Professionals Board Accreditation No. BPB0825 Member of the Australian Institute of Building Surveyors Member of the Association of Accredited Certifiers Associated Member of the Association of Consultants in Access Australia (ACAA) Membership #594	
Reviewed By:	Matt Shuter DIRECTOR For MSA	Building Code, Access & Fir Grade 1 - Accredited Buildin Building Professionals Board A Member of the Australian Insti Member of the Association of A	ng Certifier / PCA ccreditation No. BPB0809 itute of Building Surveyors





Executive Summary

This report has assessed the DA level design documentation for the proposed residential development with associated carparking, at 195-197 Sydney Road, Fairlight NSW under the provisions of the Building Code of Australia (BCA), including relevant provision for "Access for People with Disabilities".

The primary purpose of the report is to assess the development design and identify any significant noncompliance matters in comparison to the current deemed-to-Satisfy (DTS) provisions of the BCA. Assessment is limited to those issues ascertainable from the current level of detail.

Subject to the recommendations contained in Section 3.0 of this report (and as detailed in the Table below), the development can readily comply with the requirements of the BCA.

Based on the reviewed design, the following matters will not comply with the deemed-to-satisfy provisions of the BCA will need to be addressed by design change or Performance Solution (or further details to be provided to indicate compliance):

#	DTS Clause	Description of Issue.
1.	C1.1	Separation of Skylights
		The skylights in difference units must be not less than 3m apart. See below for <i>example</i> of non-compliant area.
		This will need to be addressed via Performance Solution.
		1,376.56
2.	D1.4	 Exit Travel Distances The following travel distance issues should be addressed by design change or by way of Performance Solution: Level 02, 03 & 04 - Northern part - the distance between some SOU doorways and the nearest exit exceeds 6m (up to approx. 17m) Level 04 & 05 - Southern part - the distance between some SOU doorways and the nearest exit exceeds 6m (up to approx. 16m) This will need to be addressed via Performance Solution.
3.	D1.10 D2.12	Discharge of Exits + Roof as Open Space



MATT SHUTER + ASSOCIATES - BUILDING CODE CONSULTANTS + CERTIFIERS

#	DTS	Description of Issue.
	Clause	 Egress from the southern part of the building relies upon traversing the roof (of Level 00) and past the northern part of the building in order to reach the street. The western external egress path passes back into the building (via the entrance office/café) before reaching the street. The external path passes by roof lights - these rooflights are proposed to be fire protected and are proposed to be supported via Performance Solution at CC stage. This will need to be addressed via Performance Solution.
4.	D3.1	Access for People with a Disability
		An accessway must be provided to the entrance door of all units on levels served by a passenger lift – the current design does not achieve compliance (typically a clear space of at least 1540mm x 2070mm is required outside unit entrances so as to permit a wheelchair user to perform a 180degree turn - See below for example of non-compliant area. This is proposed to be addressed via Performance Solution at CC stage (noting that a
5.	D3.5	suitable doorbell intercom system will need to be provided in an accessible location) Accessible Carparking Spaces
		The required shared zone for one the required accessible carparking spaces is encroached upon by a concrete column.
		This is proposed to be addressed via Performance Solution at CC stage.
		This is proposed to be addressed via renormance solution at CC staye.

#	DTS	Description of Issue.
	Clause	
6.	E1.3	Fire Hydrant Design
		The following issues will need to be addressed via Performance Solution or Clause 188 Exemption from Fire Rescue NSW:
		(a) The external booster is located less than 10m from the building.

1.0 Introduction

This report has assessed the DA level design documentation for the proposed residential development with associated carparking, at 195-197 Sydney Road, Fairlight NSW under the provisions of the Building Code of Australia (BCA), including relevant provision for "Access for People with Disabilities".

1.1 Basis of Report

The key basis of this report is to address compliance with the significant requirements of the Building Code of Australia (BCA) and relevant disabled access provisions relevant to the new building works.

The scope of services is limited to assessment against Sections C - Fire Resistance, Section D - Access & Egress, Section E - Services & Equipment, Section F - Health and Amenity, Section G - Ancillary Provisions of the BCA, and relevant Access Provisions as detailed in Section 1.2 below.

1.2 Assessed Information

This report is based on the following:

- Desktop assessment of Architectural Plans prepared by Modularium (refer to Attachment A) & comments provided by Modularium on Rev01 MSA BCA Report)
- The National Construction Code Building Code of Australia (BCA), prepared by the Australian Building Codes Board.

Note: A reference to the "BCA" in this report is a reference to the Building Code of Australia 2016

- The Guide to the BCA, prepared by the Australian Building Codes Board.
- Commonwealth Disability (Access to Premises) Standards 2010
- Relevant provisions of AS1428.1-2009 "Design for Access and Mobility Part 1: General Requirements for Access New Building Works" published by Standards Australia.

1.3 Purpose of Report

The purpose of this report is to assess the following:

- Assessment of the proposed works under the current BCA and relevant Disabled Access Provisions and detail any significant departures (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 relevant Disabled Access Provisions

1.4 Limitations of Report

- The assessment is limited to a desktop assessment only and has not included site assessment or physical assessment of the property in any way.
- Some requirements of the BCA are recognised as being interpretive in nature. Where these matters are encountered, interpretations are made in accordance with MSA policy. Specific relevant interpretations relevant to this assessment are included in Section 2.3 "BCA Interpretation Notes".
- Assessment beyond the compliance matters ascertainable on the current documentation is beyond the scope of this report. Further assessment of the detailed design is recommended upon approval of the DA.
- Section J Energy Efficiency Assessment is beyond the scope of this report.
- An assessment of the provisions of BCA F1 (Damp & Weatherproofing) is not included in this report. Details would typically be provided at Construction Certificate Stage.
- Reporting on hazardous materials, OH&S matters or site contamination
- Detailed assessment of any engineering matters e.g.: structural, electrical, hydraulic, mechanical, fire
- Heritage significance
- Environmental or planning issues
- Requirements of statutory authorities
- Provision of any Construction Certification under Part 4A of the Environmental Planning & Assessment Act 1979
- Note re Performance Solutions The recommendations of a Performance Solution report may necessitate design changes to be made. Where these design changes are required after the issue of Development Consent, a Section 96 approval may be required.



2.0 Building Characteristics

2.1 Building Description

The development primarily comprises 5 levels of residential (boarding house) sole occupancy units (SOU's) constructed over common 'basement' (or lower ground floor) carparking. Communal facilities (storage/open space) are proposed at various levels.

Vehicle and pedestrian access are provided via Sydney Road (northern side of the site)

2.2 **BCA Assessment Data**

The following BCA assessment data is relevant to the proposal under the current BCA.

Table 2.2 BCA Assessment Data

BCA Building Classification:	3 – Residential SOU's (short term accommodation)
BCA A3.2, A3.3	7a – Car parking (Basement) 7b* – Storage
	*Level 00 contain common storage rooms/spaces. The floor area of the
	storage component is assumed to comprise less than 10% of the total floor
	area of the storey in which they are located – and on this basis have not
	been classified separately.
Rise in Stories	6
BCA C1.2	
Type of Construction	Type A
BCA C1.1	
Floor Area Limitations for Type of	The Class 3 parts of the building are generally not subject to floor
Construction	area/volume fire compartment limitations
BCA C2.2	The Class 7 fire compartments are assumed to be sprinkler protected and also not subject to the limitations of BCA Table C2.2
Effective Height	16.4m (i.e. more than 12m, but less than 25m)
Other	Voids in common areas are assumed not be enclosed at the top and have therefore not been assessed as 'atriums' for the purposes of this assessment. This will need to be verified during detailed design.

3.0 **BCA / Access Assessment & Recommendations**

The following table provides a 'clause by clause' assessment of the proposed development against the requirements of the BCA and relevant Disabled Access Provisions.

The compliance status and comment/recommendation are indicated (shaded) in the right-hand column as follows:

Complies - The design is considered to meet the requirements of the clause.

Does not comply - The design does not meet the requirements of the clause OR further information is required to determine compliance. Design changes or a Performance Solution must be provided.

Compliance Readily Achievable (CRA) within the constraints of the current design*

Not Applicable (NA). The clause is informational or does not apply to the subject design

*Clauses marked CRA. It should be noted that compliance with these items is not expected to necessitate significant design changes, and therefore can be addressed at Construction Certificate (CC) Stage, e.g. either in the CC architectural plans, or in a BCA Compliance Specification.



Table 3.0 –BCA Clause by Clause Assessment

BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
SECTION B - ST	TRUCTURE	
Part B1 Structure	All buildings and structures should be designed by appropriately qualified structural engineers in accordance with Part B1 of the BCA and AS 1170 (SAA Loading Code), AS 1684, AS 1720, AS 2870, AS3600, AS4100 and/or other relevant structural codes.	Structural engineer to certify at Construction Certificate (CC) stage.
Clause B1.4 Glazing	All glazing must be selected and installed in accordance with AS2047 & AS1288.	A plan or spec notation to this effect is required. (at CC Stage)
SECTION C - FI	RE RESISTANCE	
Part C1 Fire Resistance		
C1.1 Type of Construction Required	The required type of construction is determined using Table C1.1 and depends on the rise in storeys of the building and Classification of the top storey.	Note the following FRLs generally required for each Classification in the subject building:
	BCA Specification C1.1 provides the requirements (including Fire Resistance Levels (FRL)) for buildings elements in each type of Construction for each Classification.	 Class 3– 90 mins Class 7a– 120mins
		• Class 7b – 240mins
		Details for the proposed construction material and FRL's should be provided on the architectural plans, and where necessary on the structural plans (at CC stage).
		Care should be taken with the selection of any external cladding materials – it is recommended that the materials be approved by the Accredited Certifier/PCA prior to installation.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
C1.2 Calculation of Rise In Stories	Informational Clause - Provides details for how to calculate the rise in storeys	The building will have a rise in storeys of 6 (or more than 3).
C1.3 Buildings of Multiple Classifications	Informational clause relating to buildings containing more than 1 Classification.	The top floor of the building is occupied by a Class 3 part. Therefore, for the purposes of determining the required type of construction, the whole building is treated as a Class 2 building.
C1.4 Mixed Types of Construction	Informational clause relating to the requirements for buildings containing more than 1 type of construction.	The building will be of Type A construction throughout
C1.5 Two Storey Class 2, 3 or 9 buildings	Provides a concession for construction type in certain Class 2, 3 and 9b buildings.	The building has a rise in storeys of more than 2 and contains Class 7 parts – therefore this concession cannot be applied.
C1.6 Class 4 Parts	Provides construction type requirements for Class 4 parts	The building contains no Class 4 parts.
C1.7 Open Spectator Stands	Provides construction type requirements for buildings containing open spectator stands.	The building is not an open spectator stand.
C1.8 Lightweight Construction	Provides requirements for lightweight construction where used in fire rated walls or to protect steel columns	Any proposed fire rated lightweight construction must be confirmed as complying with Specification C1.8 by the Structural Engineer (not currently indicated on the plans).
C1.9 Non- combustible	In a building <i>required</i> to be of Type A or B construction, the following building elements and their components must be <i>non-combustible</i> :	Details for the proposed construction materials in accordance with this clause should be provided on the architectural plans, and where necessary on the structural plans (at CC stage).
Building Elements	(i) External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.	
	(ii) The flooring and floor framing of lift pits.	
	(iii) Non-loadbearing internal walls where they are required to be fire-resisting.	
	(b) A <i>shaft</i> , being a lift, ventilating, pipe, garbage, or similar <i>shaft</i> that is not for the discharge of hot products of combustion, that is non- <i>loadbearing</i> , must be of <i>non-combustible</i> construction in—	



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	(i) a building required to be of Type A construction; and	
	(ii) a building <i>required</i> to be of Type B construction, subject to C2.10 , in—	
	(A) a Class2,3 or9building; and	
	(B) a Class5,6,7 or8buildingifthe <i>shaft</i> connects more than2 <i>storeys</i> .	
	(c) A <i>loadbearing internal wall</i> and a <i>loadbearing fire wall</i> , including those that are part of a <i>loadbearing shaft</i> , must comply with Specification C1.1 .	
	(d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants and damp-proof courses.	
	(e) The following materials may be used wherever a <i>non-combustible</i> material is <i>required</i> :	
	(i) Plasterboard.	
	(ii) Perforated gypsum lath with a normal paper finish.	
	(iii) Fibrous-plaster sheet.	
	(iv) Fibre-reinforced cement sheeting.	
	(v) Pre-finished metal sheeting having a <i>combustible</i> surface finish not exceeding 1 mm thickness and where the <i>Spread-of-Flame Index</i> of the product is not greater than 0.	
	(vi) Bonded laminated materials where—	
	(A) each lamina, including any core, is non-combustible; and	
	(B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2mm; and	
	(C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively	
C1.10 Fire Hazard Properties	Linings, materials and assemblies must be 'non-combustible' or comply with BCA Specification C1.10.	Details of proposed materials linings and assemblies to be provided in the CC documentation.
- p	Note - Paint or fire-retardant coatings must not be used to achieve compliance with fire hazard properties requirements.	



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
C1.11 Performance of External Walls in Fire	Tilt up or pre-cast concrete panels must comply with BCA Specification C1.11	The proposed design does not appear to contain tilt-up panels.
C1.12 Combustible materials	Informational clause – providing details for non-combustible materials	Noted - Informational clause only
	tion & Separation	
C2.2 General Floor Area & Volume Limitations	Floor areas and volumes of fire compartments must be in accordance with BCA Table C2.2.	Floor areas and volumes of fire compartments are less than the maximum allowed for Type A construction.
C2.3 Large Isolated Buildings Note requirements of NSW C2.3	Provides concessions from the fire compartment floor area and volume limitations of BC C2.2 for 'large isolated buildings'.	The building is not considered to be a 'large isolated building'.
C2.4 Requirements for Open Space & Vehicular Access	Provides requirements for open space and vehicular access for large isolated buildings	As above
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
C2.6 Vertical Separation of openings in external walls	In 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 separation of opening in external walls must be provided in accordance with this clause. Specific attention should be paid to the following areas: Openings being protected by balcony slabs – ensure slab extends outwards 1100mm and horizontally 450mm from the opening being protected. Vertical spandrels to be provided to openings not provided with horizontal slab projections.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	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	3. General – dimensions of spandrels /balcony slabs to be nominated on CC level plans.
	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.	It is understood that where full height glazing is proposed, that spandrel panels will be provided behind the glazing. Details to be provide at CC stage.
C2.7 Separation by Fire Walls	Provides the requirements for fire wall construction.	See comments in C2.8 below.
C2.8 Separation of Classifications in the same storey	 Where a building has different Classifications in the same storey: The Classifications must be separated by a fire wall (with the 'higher' FRL); OR The entire storey must be constructed to the 'higher FRL' 	Separation of the carparking (Class 7a) and residential (Class 3) parts at the southern part of Level 01 must be provided by a fire wall achieving an FRL of at least 120/120/120. Details for the proposed construction material and FRL's should be provided on the architectural plans, and where necessary on the structural plans (at CC stage).
C2.9 Separation of Classifications	Where a building contains different Classifications and one Classification is situated above, they must be fire separated as follows:	The floor which separates the storeys of differing Classifications must achieve the FRL not less than that required for the lower storey.
in different stories	 a) Type A Construction – the separating floor must achieve the required FRL (under BCA Spec C1.1) for the lowest storey b) Type B/C Construction – where one of the Classifications is 2/3/4, the separating floor must achieve a FRL of 30mins, RISF not less than 60mins or be lined to the underside with a 'fire protective covering' 	E.g. a floor separating the Class 7a parts from the Class 3 above must be not less than 120/120/120. Details for the proposed construction material and FRL's should be provided on the architectural plans, and where necessary on the structural plans (at CC stage).
C2.10 Separation of lifts shafts	The following lift shafts are required to achieve a FRL: a) General - lifts connecting more than 2 storeys b) Lifts in Class 9a or 9c buildings c) 'Emergency Lifts'	The proposed lift shafts must have a FRL in accordance with the requirements of Table of Specification C1.1 (relevant for the Classifications concerned). Details for the proposed construction material and FRL's should be provided on the architectural plans, and where necessary on the structural plans (at CC stage).



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	Openings for landing doors and services must be protected in accordance with the requirements of BCA Part C3.	
C2.11 Stairways and lifts in one shaft	Stairs and lifts must not be in the same shaft if either is required to be 'fire isolated'	The lift is proposed in its own shaft.
C2.12 Separation of Equipment	The following equipment is required to be fire separated from the remainder of the building: Lift motors or control panels Emergency generators for emergency equipment Central smoke control plan Boilers Batteries (>24V & exceeding 10 ampere hours) Fire pumps	Any equipment specified by this clause must be separated by 120/120/120 construction, including boilers, batteries, diesel pumps etc. Full details of equipment to be provided (note that a fire hydrant pump room required to be fire separated from the remainder of the building) Details to be submitted at CC stage -
C2.13 Electrical Supply	Substations, main switchboards (where sustaining emergency equipment) and certain electrical conductors must be fire separated from the remainder of the building.	Details to be submitted at CC stage. Note – fire separation requirements of Energy Australia typically exceed those of the BCA.
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).	The 'public corridors' (being the enclosed corridors as defined in the BCA) in the Class 3 components do not exceed a length of 40m It should be noted that this report assumes that the residential 'corridors' will be substantially open in nature and therefore not considered a public corridor by BCA definition. This will need to be verified during detailed design.



Protection of Openings

BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
C3.2 Protection of openings in external walls Note NSW C3.2 ((a) deleted)	Openings in external walls of buildings must be protected in accordance with BCA C3.4 where they are: Less than 3m from an allotment boundary (other than the boundary of a road, river or lake etc); or 6m from the far side of a boundary with road, river or lake etc; or 6m from the external wall of another building on the allotment	Openings in external walls which are less than 3m from a fire source feature (being the side/rear allotment boundaries or the far side of an adjoining road/lane) must be protected in accordance with BCA C3.4.
C3.3 Separation of external walls and associated openings in different fire compartments	External walls (and associated openings) of different fire compartments must be fire rated/protected where they are exposed to one another (refer to Table C3.3)	Fire separation between the external walls of the carpark and class 3 common room at the southern part of Level 01 will need to be provided. This could be achieved with fire doors and or drencher protected glazing Details can be provided at CC stage.
C3.4 Acceptable Methods of Protection	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	Informational clause



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	 (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. 	
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 Sliding fire doors must automatically close in accordance with this clause and 	The door in the wall separating the carpark and class 3 common room at the southern part of Level 01 will need to achieve a FRL of at least -/120/30. Details can be provided at CC stage. There are no sliding fire doors proposed.
Sliding Fire Doors C3.7 Protection of	be provided with warning signage Doors in horizontal exits must achieve the same FRL as that of the fire wall	There are no horizontal exits proposed.
Doorways in horizontal exits C3.8 Openings if fire isolated exits	Doors must be self or automatic closing 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 submitted at CC stage
C3.9 Service Penetrations in	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 submitted at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
fire-isolated exits		
C3.10 Openings in Fire isolated lift shafts	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	Details to be submitted at CC stage.
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 submitted at CC stage.
C3.12 Openings in floors and ceilings for services	Services penetrations must be protected in accordance with this clause. See C3.15 below also.	Details to be submitted at CC stage.
C3.13 Openings in Shafts	Openings in shafts required to be fire rated to be protected in accordance with this Clause.	Details to be submitted at CC stage.
C3.15 Openings for Service Installations	Services must be protected against the spread of fire when penetrating any building element that is required to be fire-rated (i.e., separating floor/wall/shaft).	Details to be submitted at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	All cable penetrations through floors or fire walls must be fire stopped in accordance with BCA C3.15 and AS1530.4.	
C3.16 Construction Joints	Fire-rated mastic or other approved product tested to AS1530.4 is required to seal gaps in fire rated construction.	Details to be submitted at CC stage.
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 submitted at CC stage.
SECTION D ACCESS & EGRI Part D1 Provision for E		
D1.2 Number of	At least one exit must be provided from each storey of every building	Not less than 1 exit must be provided from each storey.
Exits required Note NSW D1.2	 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 child care 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 	The design shows general compliance in this regard, however the external paths between the exit(s) from the southern part and the street will need to be detailed.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
D1.3 When Fire Isolated exits are required	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. 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.	Fire isolated appear to be provided generally as required. Refer to comments in D1.7 in relation to the discharge of fire exits.
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 	Performance Solution Proposed - Refer to Executive Summary
D1.5 Distance Between Alternate Exits Note NSW D1.6	 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 	The distance between alternative exits is generally in accordance with this clause.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	Be located so that alternative paths of travel do not converge to be less than 6m apart.	
D1.6 Dimensions of Exits and paths of Travel to Exits D1.7 Travel via Fire Isolated Stairs	Exits and paths of travel to exits are required to be unobstructed for a width of no less than 1000mm wide and a height of no less than 2000mm – see D2.17 also. Additional exit width must be provided where the storey or part accommodates more than 100 people, or is in a Class 9a or 9c building. 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 exit doors are required to be not less than 750mm clear. (note that doors in an accessible pathway must be not less than 850mm clear - refer to Part D3 of the report for further details) Details to be provided at CC stage. Travel via the fire exits passes by the external walls (and openings) of the building – the openings will require protection in accordance with BCA D3.4 – where exposed to the path of travel. Details to be provided at CC stage.
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.	There are no external stairs being used in lieu of fire isolated exits.
D1.9 Travel by non- fire-isolated stairs	 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. 	All internal stairs relied upon for egress are typically fire isolated stairs.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	 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. 	
D1.10 Discharge from Exits Note NSW D1.10	Barriers must be provided where necessary to prevent exits being obstructed by vehicles. The path of travel between an exit and the street must be not less than 1m wide and be provided with stairs and or ramps complying with BCA Part D2/D3 Additional requirements apply to Class 9b building/open spectator stands.	Performance Solution Proposed - Refer to Executive Summary
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. 	There are no horizontal exits relied upon for the purposes of this assessment.
D1.12 Non-required stairways, ramps or escalators	 Non-fire-isolated stairs, ramps or escalators must not connect more than 2 consecutive storeys (or 3 consecutive storeys in a sprinkler protected building)- assuming one of the storeys connected provides direct egress to road/open space. Some exemptions apply to open spectator stands, stadiums, carparks and external stairs. Additional requirements apply in Class 9a or 9c buildings. 	There are no non-required stairs/ramps in the subject development.
D1.13 Number of Persons Accommodated	Provides methods for calculating number of occupants for different building uses.	Informational clause only.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
Note NSW Table D1.13 Area per person according to use		
D1.14 Measurement of Distances	Provides details for how to measure distances for exits.	Informational clause only.
D1.15 Method of Measurement	Provides further details for how to measure egress distances.	Informational clause only.
D1.16 Plant Rooms and lift Motor Rooms: Concession	Provides concessions for egress requirements in certain plantrooms.	Informational clause only.
D1.17 Access to lift pits	Provides requirements for access/egress to/from lift pits.	There are no lift pits indicated on the plans.
Part D2 Construction o	f Exits	
D2.1 Application of Part Note NSW D2.1	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.	Informational clause only.
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.	Details to be provided on the architectural and structural plans at CC stage.
D2.3 Non-fire Isolated stairways and ramps	Non-fire isolated stairs/ramps in a building having a rise in storeys of more than 2 are required to be constructed in concrete, 6mm steel or 44mm thick timber (additional requirements apply in relation to glue and timber density).	All stairs are typically required to be fire isolated.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
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 rising and descending flights appear to be separated at the level of discharge. Full details to be provided at CC stage.
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.	There are no open access ramps or balconies required to be provided for smoke hazard management.
D2.6 Smoke Lobbies	Provides requirements for smoke lobbies (where required by BCA D1.7)	Smoke lobbies are not required to be provided.
D2.7 Installations in Exits and Paths 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. 	Details to be provided at CC stage.
D2.8 Enclosure of Space Under Stairs and ramps	 The space below a fire isolated stairway must not be enclosed for form a storage cupboard or similar. The space below a non-fire-isolated exit may be enclosed, providing the enclosure achieves a FRL of at least 60/60/60 & the access doorway is protected with a self-closing fire door 	There are no enclosures currently indicated on the plans.
D2.9 Width of Stairs	Information clause confirming that a required stairway which exceeds a width of 2m is only counted as having a width of 2m – unless intermediate handrails/barriers are provided.	Informational clause only.
D2.10 Pedestrian Ramps	 Fire isolated ramps may be used in lieu of fire isolated stairways 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. 	Details to be provided at CC stage.
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.	There are no fire isolated passageways currently proposed.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
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 external path passes by roof lights (visible at Level 01 plan – as shown in plan extract below) – these rooflights are proposed to be fire protected and are proposed to be supported via Performance Solution at CC stage. RL. 51.700 Fire Rated Glass Block Skylights Performance Solution Proposed - Refer to Executive Summary
D2.13 Goings & Risers Note NSW D2.13	 Stairways must have: A minimum 2 risers (single steps not permitted), and maximum 18 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) Risers which will not permit a 125mm sphere to pass through Slip resistant treads 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 	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
D2.14 Landings	 In a Class 9b building – not more than 36 risers are permitted in consecutive flights without a change in direction of at least 30 degrees Landings must have a grade not steeper than 1:50 Be not less than 750mm long Be slip resistant as per BCA Table D2.14 	Landings appear to be provided as required, however full details should be provided at CC stage. Details to be provided at CC stage.
D2.15 Thresholds Note NSW D2.15	Internal doorways must not contain a step/ramp within the door threshold A single 190mm step is typically permitted for external doorways which are not required to be accessible. Accessible doorways must be provided with a threshold ramp or landing + step ramp in accordance with AS1428.1 Additional requirements apply to Class 9a/9c buildings	Details to be provided at CC stage.
D2.16 Balustrades and other Barriers Note NSW D2.16	 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 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) 	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
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.	Full details for handrails will need to be provided at CC stage. It should be noted that the design of the fire isolated stairs will need to comply with AS1428.1. Note that where the handrail is to be installed on the inside of the stair, an 'off-set' tread design is typically required to allow for handrails to be continuous and at a consistent height around mid-landings. Details to be provided at CC stage.
D2.18 Fixed Platforms, walkways and 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.	Informational clause.
D2.19 Doorways & Doors Note NSW D2.19	 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 200m², 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. 	Swinging or sliding doors are typically proposed as required.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	Additional requirements apply to Class 9a and 9c buildings.	
D2.20 Swinging Doors	 Swinging egress doors must not impede/obstruct egress width within an exit Doors must generally swing in the direction of egress (except where serving parts of the building with a floor area of 200m²) 	The final egress doors and doors serving as exits swing in the direction of egress.
D2.21 Operation of Latch Note NSW D2.21	 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.
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 building
D2.23 Signs on Doors	Signage must be provided to fire exit doors.	Signage to be provided to fire egress doors as required by this clause. Details to be provided at CC stage.
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	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	A screen with secure fittings (refer to Clause D2.24 for requirements) Note balustrading may also be required to windows.	
D2.25 Timber Stairways: Concession	Provides a concession allowing timber stairways to be used in fire exits subject to protective measures being provided.	Informational Clause
Part D3 Access for Peo D3.1 General Building Access	ple with Disabilities BCA Table D3.1 provides the requirements for access to buildings – primary based on Classification. Areas required to be accessible are typically required to comply with AS1428.1. Requirements are summarised as follows:	Class 3 part – Units
Requirements • Class 2, 3 & 9c buildings – Common areas - Access must be from a pedestrian entrance required to be accessible to at le containing sole occupancy units and to the entrance doors of occupancy unit on that level and where levels are served by lift, to all unit entrances and common areas of the levels ser Access must also be provided to one of each type of common	 Class 2, 3 & 9c buildings – Common areas - Access must be provided from a pedestrian entrance required to be accessible to at least one floor containing sole occupancy units and to the entrance doors of each sole occupancy unit on that level and where levels are served by a passenger lift, to all unit entrances and common areas of the levels served by a lift. Access must also be provided to one of each type of common room/space for use by residents (kitchens, gyms, pools, laundries, 	At least 4 units should be 'accessible' as per BCA Table D3.1 (based on total number of units being 75). 4 units are proposed as required however detailed fitout plans will be required at CC stage. Class 7a part Access must be provided to and within any level containing accessible carparking (general compliance is achieved) All stairs in common areas (that are not within fire isolated exits) are required to
	Class 3 & 9c – SOUS (Accessible SOUs must be provided in accordance with Table BCA D3.1 – the number is calculated on the total number of SOU's provided. Accessible SOU's must be representative of the rooms available and not more than 2 accessible SOUs can be provided adjacent one another.	be provided with AS1428.1 compliant handrails to each side. Note that location of stairs may require minor reconfiguration to ensure that compliant handrail extensions can be provided – which do not encroach into accessways or circulation spaces.
	Class 5, 6, 7b, 8, 9a & 9b buildings – Access must be provided to and within all areas normally used by the occupants (additional requirements apply to Class 9b buildings which are not schools).	The accessways in the common areas must provide for a $1.5 \mathrm{m} \times 1.5 \mathrm{m}$ turning area where a 90 degree change in direction is required. Furthermore, additional circulation space may need to be provided to allow access to bin areas. See below for <i>example</i> of non-compliant areas:



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	Class 7a buildings – Access must be provided to and within any level containing accessible carparking spaces.	Full details (and minor design revisions) will need to be provided at CC stage. Class 3 part – Common areas - Performance Solution Proposed - Refer to Executive Summary Requirements for Adaptable/Livable/Visitable Units to be clarified with Council or the Town Planner.
D3.2 Access to Buildings	An access way must be provided to the building from: the main points of pedestrian entry at the allotment boundary from another accessible building connected by a pedestrian link any accessible carparking space on the allotment	An accessway is proposed between the pedestrian entrance at the allotment boundary and the principal entrance of the building (at ground floor level – assumed)



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
D3.3 Parts of	Access must be provided through the 'principal pedestrian entrance' and not less than 50% of all entrances. Where the floor area of the building exceeds 500m², a non-accessible entrance must not be located more than 50m from an accessible entrance. • Ramps (other than fire isolated ramps) must comply with Clause 10 of AS1428.1-2009.	Details to be provided at CC stage.
building to be accessible	 Stairways (other than the fire isolated stairways) are required to comply with Clause 11 of AS1428.1-2009. Fire isolated stairways are required to comply with Clause 11.1 (f) and (g) of AS1428.1 Every passenger lift must comply with BCA 3.6 Concessions from passenger lift requirements in 3 storey Class 5,6,7b or 8 buildings with a floor area of less than 200m² for the upper storeys. Specific requirements apply in relation to carpets in accessible areas. 	
D3.4 Exemptions	 Access into certain areas are provided with a concession from the general access requirements. Areas where it would be inappropriate because of the use of the particular area An area that posses a health/safety risk for people with a disability 	The concessions granted by this clause may be applied to the service/maintenance areas where deemed appropriate by the Certifying Authority (details to be provided at CC stage).
D3.5 Accessible Carparking	Accessible carparking must comply with AS2890.6 and be provided in accordance with BCA Table D3.5. The number of accessible carparking spaces depends on the Classification of the building and the total number of carparking spaces provided.	At least 3 accessible carparking spaces should be provided as per BCA Table D3.5 (based on a total of 38 carparking spaces, 4 accessible units and a total of 75 units) Access is generally provided to the Class 7a component containing carparking spaces via the passenger lift. Issues to be addressed/clarified (columns in shared zones) - Refer to Executive Summary
D3.6 Signage	Signage in accordance with Specification D3.6 must be provided to:	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
D3.7 Hearing Augmentation	 Facilities Spaces with hearing augmentation Exit doors provided with an exit sign At a non-accessible building entrance. Hearing Augmentation must be provided where there is an in-built amplification system (other than one for emergency purposes) in: A room in a Class 9b building In an auditorium, conference room, meeting room At any ticket office, tellers booth, reception area or the like where the public is screened from the service provider. 	There is no hearing augmentation required or proposed (assumed).
D3.8 Tactile Indicators	Tactile ground surface indicators (TGSI) complying with AS1428.4.1must be provided to: Stairs/escalators/ramps/moving walkways Trafficable areas where an overhead obstruction is less than 2m in height	Details to be submitted at CC stage
D3.9 Wheelchair seating spaces in Class 9b assembly buildings	Wheelchair seating spaces complying with AS1428.1 must be provided in Class 9b buildings in accordance with BCA D3.9 & Table D3.9	There are no Class 9b parts proposed.
D3.10 Swimming Pools	Where a pool is required to be accessible, at least one accessible entrance must be provided (ramp/lift with aquatic wheelchair, zero depth entry). Note where the perimeter of the pool exceeds 70m at least one accessible entrance must be provided by a means other than a sling style lift.	There are no pools proposed.
D3.11 Ramps	 A series of connected ramps must not have a combined vertical rise of more than 3.6m A landing for a step ramp must not overlap a landing for another step ramp or ramp. 	There are no ramps subject to this clause.
D3.12	Glazing on an accessway must comply with AS1428.1	Glazing to comply where required



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
Glazing On Accessways		Details to be submitted at CC stage
SECTION E SERVICES & EC Part E1 Fire Fighting E		
E1.3 Fire Hydrants	Where the floor area of a building is considered over 500m² (and the fire brigade is available to attend a fire), the building must be provided with Fire Hydrant coverage in accordance with BCA E1.3 and AS2419.1. Attention should be paid to the location of the fire hydrant pump room (which is required to be accessed via open space or from a fire isolated exit). The pump room is also required to be fire separated from the remainder of the building in construction achieving a FRL of not less than 120/120/120. Attention should also be paid to the location of the booster – which is required to be not less than 10m from the building (or in a shielded part of the external wall) and in site of the main entrance to the building. As the building has more than 1 main entrance – advice from a hydraulic consultant and/or Fire and Rescue NSW should be sought (as the location of the booster may have an impact on the current design).	A hydraulic engineer should provide full design documentation prior to the issue of a Construction Certificate, which confirms that a fire hydrant system has been designed in accordance with BCA Clause E1.3 and AS2419.1-2005. Attention should also be paid to the location of the booster – which is required to be not less than 10m from the building (or in a shielded part of the external wall) and in site of the main entrance to the building. Early advice from a hydraulic consultant and/or Fire and Rescue NSW should be sought (as the location of the booster may have an impact on the current design). Performance Solution (or Clause 188 Exemption Proposed - Refer to Executive Summary
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 500m², 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.	Fire hose reels are required to serve the Class 7a parts of the building in accordance with AS2441-2005. A hydraulic engineer should provide design documentation prior to the issue of a Construction Certificate, which confirms that a fire hose reel system has been designed in accordance with BCA Clause E1.4 and AS2441-2005.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
E1.5 Sprinklers	 A building must be provided with a sprinkler system complying with BCA E1.5, Specification E1.5 and AS2118.1 - where required by BCA Table D1.5. The following buildings typically required sprinkler systems: 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 3,500m² or volume of 21,000m³ 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 2000m² or volume of more than 12,000m³ and containing an 'excessive hazard' 	A sprinkler system is required to be provided in the carpark fire compartment if more than 40 vehicles are accommodated. Consideration should be given to the location of the sprinkler stop valve A hydraulic engineer should provide design documentation prior to the issue of a Construction Certificate, which confirms that a sprinkler system has been designed in accordance with BCA Clause E1.5 and AS2118.1.
E1.6 Portable Fire Extinguishers	Portable fire extinguishers must be provided throughout the building in accordance with BCA E1.6, Table E1.6 and AS2444.	Details to be submitted at CC stage.
E1.8 Fire Control Centre	A fire control centre in accordance with BCA Specification E1.8 is required to be provided in a building with an effective height of more than 25m or a Class 6-9 building with a floor area exceeding 18,000m ²	A fire control centre is not required to be provided in the subject building.
E1.9 Fire Precautions during construction	Buildings under construction are required to be provided with portable fire extinguisher and hydrant coverage.	Details to be submitted at CC stage.
E1.10 Provision for Special Hazards	Suitable additional provision must be made for firefighting where it is considered that the building incorporates a <i>special hazard</i> .	It is assumed that the building will not incorporate any additional hazards.
Part E2 Smoke Hazard	Management	
E2.2 General Requirements	Buildings must be provided with smoke hazard management in accordance with BCA Table E2.2a (and BCA E2.2b for certain Class 6 & 9b buildings) Note: NSW Table E2.2b Specific Provisions	The building is required to be provided with the following in relation to smoke hazard management:



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	Note NSW Specification E2.2a Smoke Detectors and Alarms Systems	 The building must be provided with a smoke detection and alarm system in accordance with Specification E2.2a (noting Clause 4 system to be provided): and A building occupant warning system as per Clause 6 of BCA Spec E2.2a A system of system monitoring as per Clause 7 of BCA Spec E2.2a The mechanical ventilation to the Class 7a part, must comply with Clause 5.5 of AS1668.1. An electrical/fire services engineer (as appropriate) should provide design details and certification at CC stage.
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 <i>special hazard</i> .	It is assumed that the building will not incorporate any additional hazards.
Part E3 Lift Installation	ns	
E3.2 Stretcher Facility in Lifts	Stretcher facilities comprising a space which is able to accommodate a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high.	Details to be provided at CC stage.
E3.3 Warning Against the use of lifts in Fire	Warning signage must be provided near every call button for the lifts in accordance with this Clause. The sign must state: "DO NOT USE LIFTS IF THERE IS A FIRE" In 10mm high capital letters or 8mm high lower-case letters	Details to be provided at CC stage.
E3.4 Emergency Lifts	Emergency lifts are required to be provide in buildings with an effective height of more than 25m and in certain Class 9a buildings.	Emergency lifts are not required as the building has an effective height of less than 25m.
E3.5 Landings	Access and egress via the lift landings must comply with the DTS provisions of Section D.	Access and egress via the lift landings is generally in accordance with the DTS provisions of Section D.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
E3.6 Passenger Lifts	The lifts in 'accessible areas' must be one of the types identified in Table E3.6a and have accessible features in accordance with Table E3.6b, and not rely on a constant pressure device for its operation if the lift car is fully enclosed.	The size of the lift car should be not less than 1400 wide x 2000mm deep. (note that additional depth is required for stretcher facilities). Details to be provided at CC stage.
E3.7 Fire Service Controls	Where lifts serve a storey with an effective height of more than 12m – fire service controls must be provided.	Details to be provided at CC stage.
E3.8 Aged Care Buildings	Upper levels of Class 9c aged care buildings must be provided with a lift with stretcher facilities or a ramp complying with AS1428.1 – which discharges to the level of road/open space.	Details to be provided at CC stage.
E3.9 Fire Service Recall Operation Switch	Where a lift is required to be provided with fire service controls under BCA E3.7 – fire service recall switch must be provided in accordance with this Clause	Details to be provided at CC stage.
E3.10 Lift car service drive control switch	Where a lift is required to be provided with fire service controls under BCA E3.7 – fire service drive control switch must be provided in accordance with this Clause	NA
Part E4 Visibility in and	I Emergency, Exit Signs and Warning Systems	
E4.2 Emergency Lighting Requirements	Emergency lighting in accordance with AS2293.1 must be provided in: Fire exits Class 5- 9 buildings with floor area exceeding 300m² Egress pathways in Class 2-4 buildings Non-fire isolated stairs Certain Class 9 buildings Fire control rooms	Design Engineer to certify their design meets BCA and AS2293.1-2005 at CC stage.
E4.3 Measurement of Distance	Informational clause relating to method of measurement.	Informational
E4.4	Emergency lighting systems must comply with AS2293.1	See E4.2.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
Design and Operation of Emergency Lighting		
E4.5 Exit Signs	 Exit signs must be provided to: Doors leading to internal and external stairs/ramps serving as a required exit Horizontal exits A door serving as or in a required exit in an area required to be provided with emergency lighting under BCA E4.2 	Design Engineer to certify their design meets BCA and AS2293.1-2005 at CC stage.
E4.6 Direction Signs NSW E4.6 Direction Signs	Where an exit is not apparent to an occupant, directional signage is required to be installed.	Design Engineer to certify their design meets BCA and AS2293.1-2005 at CC stage.
E4.7 Class 2 & 3 Buildings & Class 4 Parts: Exemption	Provides a concession from BCA E4.5 to doors in Class 2-4 buildings provided with non-illuminated exit signage.	The exemptions allowed by this clause are noted and can be applied to the Class 2 parts.
E4.8 Design & Operation of Exit Signs	Exit signage must comply with AS2293.1 (and BCA Specification E4.8 for photoluminescent exit signs)	Informational clause only.
E4.9 Sound Systems and Intercom Systems for Emergency Purposes	 A sound system and intercom system for emergency purposes (SISEP) complying with AS1670.3 is required to be provided in: building has an effective height of not more than 25m. a Class 3 building having a rise in storeys of more than 2 and used as a residential part of a school or accommodation for the aged/children or people with a disability Class 3 building used as a residential aged care building Certain Class 9a and 9b buildings 	Not required in subject building.

HEALTH & AMENITY

BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
Part F2		
Sanitary & Oth	er 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 	The required facilities appear to have been provided in each unit. Full details to be provided at CC stage.
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.
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 	The building is not subject to this clause.
F2.4 Facilities for People with Disabilities	 Accessible sanitary & shower facilities complying with AS1428.1 must be provided in accordance with BCA Table F2.4 (a) and (b) At each bank of toilets where there are one or more toilets in addition to an accessible WC, at least one male and one female toilet must be provided to assist those with ambulant disabilities in accordance with AS1428.1 	The required accessible SOUs (as determined by Council) are required to be provided with accessible facilities (WC, shower/bath, basin and laundry). Full fit-out details for the common accessible facilities to be provided. Details to be provided at CC stage.
F2.5	Sanitary compartments (except in child care centres) must have doors and partitions to provide privacy	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
Construction of Sanitary Compartments F2.6 Interpretation: Urinals and washbasins	 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. 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.
Part F3 Room Sizes F3.1 Height of Rooms and other spaces	 The following general ceiling height requirements apply: Habitable areas – generally 2.4m Non-habitable areas – including bathrooms, hallways, corridors, storerooms – generally 2.1m Above a stairway – 2m Additional requirements apply in Class 9 buildings. 	2400mm required to habitable rooms and 2100mm to non-habitable including sanitary compartments. Detailed elevations and sections are required to demonstrate compliance at CC stage.
Part F4 Light & Ventila F4.1 Provision of natural light F4.2 Methods and extent of natural lighting	Natural light is required to be provided to habitable/sleeping rooms in Class 2, 3, 4 and 9 buildings 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)	Natural light generally provided to all habitable rooms. The light must come from windows with a light transmitting area of not less than 10% of the floor area of the area which they serve. A full window schedule should be submitted to demonstrate compliance. Particular attention should also be paid to windows where the sill height is required to be raised (under Clause C2.6 or D2.24)



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
	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.	
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.	Borrowed natural light is not proposed to be utilised.
F4.4 Artificial lighting	 Artificial lighting complying with AS1680.0 must be provided to: all required stairs, ramps and passageways areas not provided with natural light (or areas that may cause a hazard when people are seeking egress) 	Details to be provided at CC stage.
F4.5 Ventilation of Rooms Note NSW F4.5	Any room occupied by a person for any purpose must be provided with either: natural ventilation complying with BCA F4.6 or: mechanical ventilation in accordance with AS1668.2	Details to be provided at CC stage.
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.
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.	It appears that the building will not rely on 'borrowed' natural ventilation.
F4.8 Restriction of position of	Generally sanitary compartments must not open directly into: • A kitchen, pantry, public dining area or restaurant	Details to be provided at CC stage.



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT Dormitory in a Class 3 building	COMPLIANCE COMMENT/STATUS/RECOMMENDATION	
and urinals	 Room used for public assembly Workplace normally occupied by more than 1 person 		
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 1.1m² and be fitted with self-closing doors. Alternatively, the sanitary compartment must be provided with mechanical exhaust and the doorway suitably screened from view.	See comments in Clause 4.8 above.	
F4.11 Carparks	Carparks (excluding open deck carparks) must be provided with: A system of mechanical ventilation in accordance with AS1668.2; or A system of natural ventilation complying with Section 4 of AS1668.4	The mechanical ventilation system serving the carpark must comply with AS1668.2. Details to be provided at CC stage.	
F4.12 Kitchen local exhaust	A commercial kitchen must be provided with an exhaust hood in accordance with AS1668.1 & AS1668.2	There are no commercial kitchens proposed on the current plans.	
Part F5 Sound Transm	Part F5 Sound Transmission		
F5.2 Determination of airborne sound insulation ratings	A form of construction required to achieve a sound insulation rating may achieve be determined in accordance with AS/NZS 1276.1 or ISO 717.1 or comply with Specification F5.2	Details to be provided at CC stage.	
F5.3 Determination of impact sound insulation ratings	Walls in the Class 2 & 3 parts, where required to have an impact sound insulation rating must be of discontinuous construction i.e. provided with a 20mm cavity between the leaves		
F5.4 Sound Insulation of	The floor separating storeys must comply with F5.4 of the BCA (Rw + Ctr (airborne) not less than 50 and Ln,w+Cl (impact) of not more than 62).		



BCA DEEMED- TO-SATISFY PROVISION	SUMMARY OF REQUIREMENT	COMPLIANCE COMMENT/STATUS/RECOMMENDATION
floors between units F5.5 Sound insulation of walls between units	Walls between residential SOUs must achieve an Rw + Ctr (airborne) not less than 50 and a Rw (airborne) if it separates a SOU from a plant room, lift or stair shaft, public corridor or the like – or parts of a different Classification. Noting, discontinuous construction is also required (i.e. 20mm cavity) to separate a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit.	
F5.6 Sound insulation rating of services F5.7 Sound isolation of pumps	Service pipes must be sound insulated in accordance with this clause. Flexible couplings must be used at the point of connection between service pipes and circulating pumps.	



4.0 Conclusion

This report has assessed the DA level design documentation for the proposed residential development with associated carparking, at 195-197 Sydney Road, Fairlight NSW under the provisions of the Building Code of Australia (BCA), including relevant provision for "Access for People with Disabilities".

It is understood that this report will be submitted to Council to support the Development Application for the subject building.

The primary purpose of the report was to assess the development design and identify any significant noncompliance matters in comparison to the current deemed-to-Satisfy (DTS) provisions of the BCA. Assessment is limited to those issues ascertainable from the current level of detail.

Subject to the recommendations contained in Section 3.0 of this report, the development can readily comply with the requirements of the BCA. Refer to Executive Summary for issues to be addressed via design change or Performance Solution.

Further assessment of the detailed design should also be undertaken upon determination of the Development Application, and prior to the Construction Certificate being issued.

Development Application Drawing List

A 00.01	Site Plan
A 01.00	Level 00
A 01.01	Level 01
A 01.02	Level 02
A 01.03	Level 03
A 01.04	Level 04
A 01.05	Level 05
A 01.06	Roof Plan
A 02.01	Typical Unit Layout Plan
A 03.01	Elevation North + South
A 03.02	Elevation East + West
A 04.01 A 04.02	Section A - A + Secton B-B Courtyard Sections