



BCA CONSULTING

PROJECT: 101 Nuwarra Rd, Moorebank.



BCA COMPLIANCE REPORT FOR DEVELOPMENT APPROVAL SUBMISSION

DATE: 29 November 2016
REPORT NO: 0193 – REV C - FINAL
PREPARED FOR: **Oar 2 Trust**

PREPARED BY: JA | **BCA CONSULTING**

J Squared Engineering Pty. Ltd. ACN 605 793 986

BCA CONSULTING | FIRE SAFETY ENGINEERING | ACCESS CONSULTING | BUILDING SERVICES DESIGN

NSW Office - PO Box 169, Jindabyne NSW 2627, Phone: 02 6456 1285, Mobile: 0427 571 420

SA Office - PO Box 146, Magill SA 5072, Phone: 08 8390 0462, Mobile: 0412 882 122

info@jsquared.com.au www.jsquared.com.au

EXECUTIVE SUMMARY

This report is an assessment of the proposed development at 101 Nuwarra Rd, Moorebank.

The information contained in this table can be used in the following two ways:

- Grey shaded clauses highlight areas that will need further details to be provided to achieve full compliance in accordance with the deemed-to-satisfy provisions. (DTS)
- Red shaded clauses indicate areas of the design that do not comply with the BCA and will be required to be rectified to satisfy the DTS provisions (or addressed via the preparation of an Alternative Solution report which effectively satisfies the BCA via performance based means.)

Summary of identified issues of non-compliance to be addressed

DTS Clause	Description of Non-Compliance	Recommendation
C3.2	Openings located within 3m of the boundary are required to be protected with drenchers, fire rated glazing or fire shutters.	A Fire Engineered Solution is to be sought to assess this issue.
D1.4	Travel distances exceed 6m from SOU doorways to fire-isolated stairs.	A Fire Engineered Solution is to be sought to assess this issue.
D1.7	Egress from fire-isolated stairs discharges to an area not " <i>open for at least 2/3 of its perimeter</i> "	A Fire Engineered Solution is to be sought to assess this issue.

Details of identified issues of non-compliance

1. C3.2 - Protection of openings

Openings located on levels within 3m of the boundary are required to be protected with drenchers, fire rated glazing or fire shutters. Where drenchers or fire rated glazing are utilised then the openings must be auto-closing.

Units 1 and 11 in each building have identical issues. Even with the addition of the balcony, openings appear to be within 3m.

Alternatively, this issue may be addressed via a fire engineered alternative solution.



Figure 1 - Red arrows indicate fire source to and from boundary within 3m of openings

1. D1.4 Exit travel distances

(a) Class 2 and 3 buildings—

(i) The entrance doorway of any sole-occupancy unit must be not more than—

- (A) 6 m from an exit or from a point from which travel in different directions to 2 exits is available; or
- (B) 20 m from a single exit serving the storey at the level of egress to a road or open space;



Figure 1 - distance shown is 10m+

2. D1.7 Travel via fire-isolated exits

(b) Each fire-isolated stairway or fire-isolated ramp must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway—

- (i) to a road or open space; or
- (ii) to a point—

(A) in a storey or space, within the confines of the building, that is used only for pedestrian movement, car parking or the like and is open for at least 2/3 of its perimeter; and

(B) from which an unimpeded path of travel, not further than 20 m, is available to a road or open space

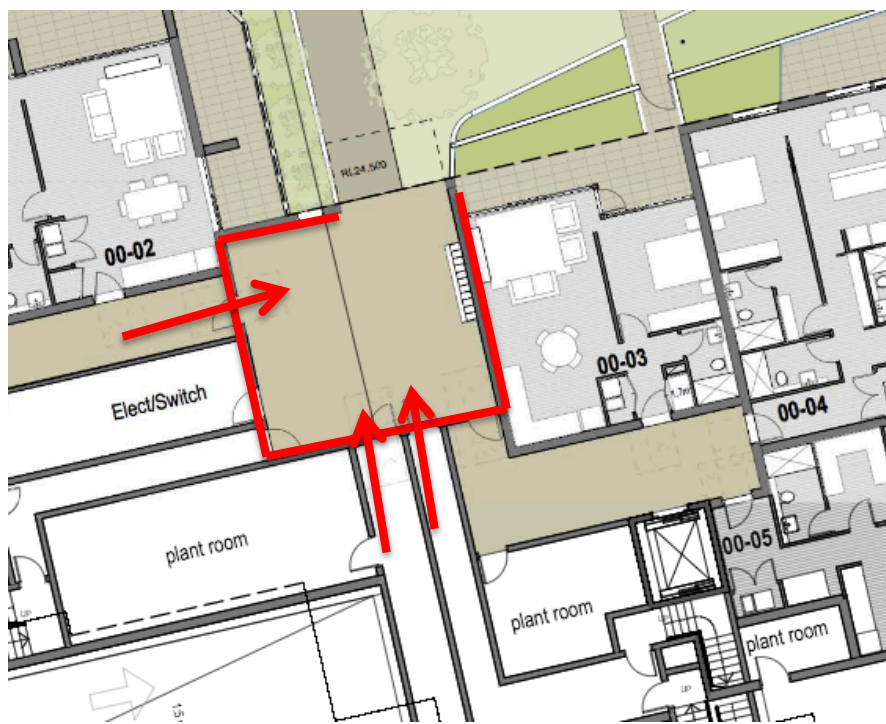


Figure 2 - the point to which egress is discharged from the building is less than the required 2/3 open

REVISION STATUS

REPORT NO.	REVISION	DATE	STATUS	WRITTEN	REVIEWED
0193	REV A	19/04/16	DRAFT	MS	JA
0193	REV B	02/06/16	DRAFT	MS	JA
0193	REV C	29/11/16	FINAL	MS	JA

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1.0 INTRODUCTION

This report provides a Building Code of Australia (BCA) 2016 compliance assessment of the proposed development at 101 Nuwarra Rd, Moorebank.

The development involves creation of two seven-storey buildings with 147 SOUs in total and 3 car parking basement levels comprising of 250 car spaces (incl. 15 Designated Accessible Parking Bays and 37 visitor spaces).

The site is on Nuwarra Rd & Lucas Ave Moorebank, it has the Moorebank Library on the southern boundary and standard house blocks to the north.



Figure 3 - courtesy Google 2016

1.1 BASIS OF REPORT

The key objective of the report is to make an:

- Assessment under the current Building Code of Australia 2016 (BCA) Parts C, D, E, F and G and list any departures and information applicable from the BCA that will need to be addressed prior to the issue of the construction certificate
- Provide BCA compliance advice and information where departures are identified.

The following architectural drawings prepared by Kennedy Associates Architects, prelim issue drawings, dated 19/05/16 were used in the BCA assessment;

Drawing No.	Title
101 Nuwarra Rd, Moorebank	
1563 – DA06 A	Demolition Plan
1563 – DA07 A	Level -02
1563 – DA08 A	Level -01
1563 – DA09 A	Level 00 Lucas Ave Ground
1563 – DA10 A	Level 01 Nuwarra Rd Ground
1563 – DA11 A	Level 02
1563 – DA12 A	Level 03
1563 – DA13 A	Level 04
1563 – DA14 A	Level 05
1563 – DA15 A	Level 06
1563 – DA16 A	Level 07
1563 – DA17 A	Roof Level
1563 – DA18 A	Nuwarra Rd Elevations
1563 – DA19 A	Lucas Ave Elevations
1563 – DA20 A	Courtyard Sections
1563 – DA21 A	South Elevations
1563 – DA22 A	Cross Section

1.2 LIMITATIONS & EXCLUSIONS

The following items are outside the scope of this report:

- Reporting on hazardous materials, OH&S matters or construction site contamination
- Assessment of any structural elements or geotechnical matters relating to the building, including any structural or other assessment of the existing fire resistant levels of the building
- Assessment of any new or existing fire services operations (including hydraulic, electrical or other systems)
- Assessment of new or existing plumbing and drainage installations, including stormwater
- Assessment of mechanical plant operations, electrical systems or security systems
- Heritage significance
- Consideration of energy or water authority requirements
- Consideration of local planning policies
- Environmental, planning or heritage issues
- Requirements of statutory authorities
- Pest inspection or assessment of building damage caused by pests.

- Energy efficiency Part J.
- Fire safety upgrading required by the Environmental Planning and Assessment Act and Regulation.

1.3 REPORTING TEAM

The information contained herein has been prepared by:

- James Alexander (Building Surveyor, Grade A1 Accredited Certifier and PCA BPB 0002)

2.0 BUILDING CLASSIFICATION

2.1 BUILDING CHARACTERISTICS

Classification of Building or Part:	Class 2 Residential units (x 147) Class 7a carpark (3 levels)
Rise in Storeys:	7 Storeys (Nuwarra Rd) 7 Storeys (Lucas Ave)
Storeys contained	10 (Nuwarra Rd) 9 (Lucas Ave)
Effective Height:	19.5m (Nuwarra Rd) 19.6m (Lucas Ave)
Type of Construction:	Type A
Floor areas: Class 7a	Approx. 2000m ² basement level 00 Approx. 3300m ² basement level -01 Approx. 2500m ² basement level -02 Class 7a fire compartment.
C2.2 max compartment sizes:	Class 7a - max 5000m ² unless it is protected throughout with a sprinkler system [complying with Spec. E1.5] and provided with perimeter vehicular access [complying with C 2.4(b)].

3.0 BCA COMPLIANCE SUMMARY

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
SECTION C - FIRE RESISTANCE				
Part C1 - FIRE RESISTANCE AND STABILITY				
C1.0	DTS provisions	✓	Note only	Noted
C1.1	Type of Construction Required	✓	Note only	Type A
C1.2	Calculation of Rise in Storeys	✓	Note only	7 storeys
C1.3	Buildings of Multiple Classification	✓	✓	Note only - Class 2 and 7a
C1.4	Mixed Types of Construction	✓	✓	All type A
C1.5	Two Storey Class 2, 3 or 9c Buildings	X	Note only	Only concerns type C
C1.6	Class 4 Parts of Buildings	X	Note only	
C1.7	Open Spectator Stands & Indoor Sports Stadiums	X	Note only	
C1.8	Lightweight Construction	✓	Note only	Where lightweight construction proposed for fire rating purposes it must comply with this clause.
C1.9	*****			Blank
C1.10	Fire Hazard Properties	✓	Compliance advice	Carpets, floor and wall linings of units and common areas to be certified to comply with Spec C1.10 and sarkings to comply with Spec C1.10a. Test reports to be provided demonstrating compliance.
C1.11	Performance of External Walls in Fire	X	Note only	No tilt up panels proposed.
C1.12	Non-Combustible Material	✓	Note only	Noted

Part C2 – COMPARTMENTATION AND SEPARATION

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
C2.0	Deemed-to-Satisfy Provisions	✓	Note only	Noted
C2.1	Application of Part	✓	Note only	Noted
C2.2	General Floor Area & Volume Limitations	X		Does not apply to the class 2 part. The class 7a part exceeds 5000m ² but must be protected throughout with a sprinkler system [complying with Spec. E1.5] given more than 40 cars and therefore this clause does not apply.
C2.3	Large Isolated Buildings	X		Exceeds table C2.2 and must comply with C2.3



CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
				(b) (i) & (ii). Perimeter Access in accordance with C2.4 is not provided.
C2.4	Requirements for open space & Vehicular Access	X		Vehicular Access is not required as the building should be protected with a sprinkler system.
C2.5	Class 9a & 9c Buildings	X		Not a class 9a or 9c
C2.6	Vertical separation of openings in external walls	✓	✓	Noted. Plans indicate spandrel separation.
C2.7	Separation by fire walls	✓	✓	Firewall separation on Lucas Ave Ground between Class 2 and 7a.
C2.8	Separation of classifications in the same storey	✓	✓	Different classifications are located on the same storey.
C2.9	Separation of classifications in different storeys	✓	Compliance advice	The separation between the class 7 and 2 parts are to be in accordance with Table 3 Spec C1.1. Refer to extract below
C2.10	Separation of lift shafts	✓	Compliance advice	Lift is separated from the remainder of the building
C2.11	Stairways and lifts in one shaft	✓	✓	The stairway and lift are not in the same shaft.
C2.12	Separation of equipment	✓	Compliance advice	Lift motor room, onsite fire pumps if applicable to be separated by construction achieving FRL 120/120/120.
C2.13	Electricity supply system	✓	Compliance advice	An electricity substation located in the building, main switchboard sustaining emergency equipment, electrical conductors etc. If applicable, is required to be separated from remainder of building by construction achieving FRL 120/120/120.
C2.14	Public corridors in Class 2 & 3 buildings	✓	✓	Corridors do not exceed 40 metres.

Part C3 - PROTECTION OF OPENINGS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
C3.0	Deemed-to-Satisfy Provisions	✓	Note only	Noted
C3.1	Application of Part	✓	Note only	Noted
C3.2	Protection of openings in external walls	✓	X	Drawings show openings within 3m of the south side allotment boundaries.
C3.3	Separation of openings in different fire compartments	✓	✓	No openings in separate fire compartments adjacent.
C3.4	Acceptable methods of protection	✓	Compliance advice	Noted
C3.5	Doorways in fire walls	X	NA	Noted
C3.6	Sliding fire doors	X	NA	No sliding fire doors indicated on plans.
C3.7	Protection of doorways in horizontal exits	X		No horizontal exits required.
C3.8	Openings in fire-isolated	✓	✓	



CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
	exits			
C3.9	Service penetrations in fire isolated exits	✓	Compliance advice	Services are not permitted in fire stairs except hydrant pipe work, ducting for pressurisation and electrical services.
C3.10	Openings in fire isolated lift shafts	✓	Compliance advice	Doors to lift to have FRL -/60/-
C3.11	Bounding construction Class 2, 3 and 4 buildings	✓	Compliance advice	Unit entry doors are required to be -/60/30 self-closing fire doors.
C3.12	Openings in floors for services	✓	Compliance advice	Service penetrations to be in fire rated shaft as per Table 3 Spec C1.1. Refer extract.
C3.13	Openings in shafts	✓	Compliance advice	Access panels to service shafts to be fire rated to achieve -/60/30. If in sanitary compartment this may be reduced to -/30/30.
C3.14	*****			Blank
C3.15	Openings for service installations	✓		Noted
C3.16	Construction Joints	✓	Compliance advice	Construction joints required to be fire rated in fire rated suspended slabs if used. (AS 1530.4)
C3.17	Columns protected with lightweight construction to achieve an FRL	✓	✓	No columns to be protected with lightweight construction.

SPEC C1.1 – FIRE RESISTING CONSTRUCTION

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
2.1	Exposure to fire source feature	Noted		External walls of building are exposed to fire sources features. Appear to comply, brickwork shown on plans.
2.2	Fire protection for a support of another part	Noted		Capable of complying subject to structural engineer's certification of the existing building structure
2.3	Lintels	Noted		Window lintels to have FRL to match external wall FRL.
2.4	Attachments not to impair fire resistance	Noted		Attachments to exterior of building to comply with Spec 1.10a for fire hazard properties.
2.5	General concessions	Noted		Noted
2.5(a)	Steel columns	Noted		Concession noted but NA
2.5(b)	Timber structures	Noted		Concession noted but NA
2.5(c)	Structures on roofs	Noted		Concession noted
2.5(d)	Curtain walls and panel walls	Noted		Concession noted but NA
2.5(e)	*****			Blank
2.5(f)	Balconies and verandas	NA		Concession noted but NA
2.6	Mezzanine Floors: Concession	NA		Concession noted but NA
2.7	Enclosure of shafts	Noted		Roof of lift shaft to be enclosed at top and bottom with non combustible construction having the same FRL as required for the walls of the shaft.
2.8	Car parks in Class 2 and 3 buildings	NA		Concession noted but NA as the building contains 7 storeys.



2.9	Residential aged care buildings	NA	NA
3.	Type A Construction		
3.1(a)	Fire resistance of building elements	Noted	Refer table 3 extract below.
3.1(b)	External walls, lift pits	Noted	Required to be non-combustible construction.
3.1(c)	Internal walls required to have an FRL	Noted	Must extend to underside of ceiling with RISF or roof with FRL.
3.1(d)	Load-bearing internal walls	Noted	Required to be of concrete or masonry.
3.1(e)	Non load-bearing internal required to have FRL	Noted	Must be of non-combustible construction.
3.1(f)	FRL's for an external column	NA	No internal columns within 1.5m of a window exposed to FSF.

Table 3 Spec C1.1 extract			
BUILDING ELEMENT	CLASS 2	CLASS 7a	Comment
EXTERNAL WALL (distance to fire source feature)			
<i>Loadbearing</i>			
Less than 1.5m	90/90/90	120/120/120	New external walls must achieve stated FRL's
1.5 to less than 3m	90/60/60	120/90/90	
3m or more	90/60/30	120/60/30	
<i>Non-Loadbearing</i>			
Less than 1.5m	-/90/90	-/120/120	
1.5 to less than 3m	-/90/60	-/90/90	
3m or more	-/-/-	-/-/-	
EXTERNAL COLUMN not incorporated in an external wall -			
<i>Loadbearing</i>	90/-/-	120/-/-	
<i>Non-Loadbearing</i>	-/-/-	-/-/-	
COMMON WALLS & FIRE WALLS	90/90/90	120/120/120	
INTERNAL WALLS	CLASS 2	CLASS 7a	
Fire-resisting lift and stair shafts: • Load bearing • Non-load bearing	90/90/90 - /90/90	120/120/120 -/120/120	Capable of complying.
Internal walls bounding public corridors etc.: • Load bearing • Non-load bearing	90/90/90 • - /60/60	120/-/- -/120/120	Walls bounding public corridors required to achieve stated FRL's. 90 minute FRL in residential portion.
Internal walls between or bounding sole occupancy units: • Load bearing • Non-load bearing	90/90/90 -/60/60	120/-/- -/120/120	
Shafts not used for the discharge of hot products of combustion: • Load bearing • Non-load bearing	90/90/90 -/90/90	120/90/90 -/90/90	
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES &	90/-/-	120/-/-	



Table 3 Spec C1.1 extract			
BUILDING ELEMENT	CLASS 2	CLASS 7a	Comment
COLUMNS			
FLOORS	90/90/90	120/120/120	Floors separating units to achieve FRL 90/90/90.
ROOFS	90/60/30	120/60/30	

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
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SECTION D - ACCESS AND EGRESS

Part D1 - PROVISION FOR ESCAPE

D1.0	Deemed-to-Satisfy Provisions	✓		Noted
D1.1	Application of Part	✓		Applies and noted
D1.2	Number of exits required	✓	✓	Complies in Class 7a (carpark).
D1.3	When Fire isolated exits are required	✓	✓	Residential stair connects 7 storeys of residential units and 3 basement levels and therefore required to be contained in a fire-isolated shaft. Stairs are fire isolated. ✓
D1.4	Exit Travel Distances	✓	X	Exceeds 6m and 20m distances as per clause (a)
D1.5	Distances between alternative exits	✓	✓	Comply
D1.6	Dimensions of exits and paths of travel to exits	✓	✓	The proposed stair appears to be 1m wide when scaled off the plan.
D1.6(f) NSW	Class 9b - Place of public entertainment	X		Not a place of public entertainment.
D1.6(h) NSW	Class 9b - Place of public entertainment	X		Not a place of public entertainment.
D1.7	Travel via fire isolated exits	✓	X	All fire-isolated exits discharge to open spaces. Non-compliance with parts (a) and (b).
D1.8	External stairways	X	NA	
D1.9	Travel by non fire isolated stairways or ramps	X	NA	Noted
D1.10	Discharge from exits	✓	✓	Discharge from the ground floor shows egress to the road.
D1.10(f) NSW	Class 9b - place of public entertainment	X		Not a place of public entertainment.
D1.11	Horizontal exits	X		No horizontal exits shown.
D1.12	Non-Required stairways ramps and escalators	X		No non-required ramps or stairs.
D1.13	Number of persons accommodated	✓	✓	Noted
D1.14	Measurement of distances	✓	Note only	Noted
D1.15	Method of measurement	✓	Note only	Noted
D1.16	Plant rooms & lift motor rooms: Concession	✓	Compliance advice	Plant room shown on Lucas Ave ground. Access ladders to comply with AS 1657.



CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D1.17	Access to lift pits	✓	Compliance advice	Access to lift pits to comply

Part D2 - CONSTRUCTION OF EXITS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D2.0	Deemed-to-Satisfy Provisions	✓	Note only	Noted
D2.1	Application of Part	✓	Note only	Applies in part (a) Clauses D2.13, D2.14(a) & D 2.16 do not apply to internal parts of Class 3 SOU's (b) Clauses D2.13, D2.14(a), D 2.16 & D2.18 do not apply to internal parts of Class 2 SOU's
D2.2	Fire-Isolated stairways & ramps	✓	✓	Concrete stairs.
D2.3	Non-Fire-Isolated stairways and ramps	✓	✓	Concrete
D2.4	Separation of rising and descending stair flights	✓	✓	Complies.
D2.5	Open access ramps and balconies	X		No open access ramp proposed or required to meet smoke hazard management.
D2.6	Smoke lobbies	X		Smoke lobby not shown.
D2.7	Installations in exits and paths of travel	✓	✓	No services shown in exit paths.
D2.8	Enclosure of space under stairs and ramps	✓	Compliance advice	Space under stairs not to be enclosed for cupboards.
D2.9	Width of stairways	✓	Compliance advice	Stair width to be 1m min measured from inside of handrails. Appears to comply. Ref D1.6
D2.10	Pedestrian ramps	✓	✓	Complies
D2.11	Fire Isolated passageways	X	Note	No fire isolated passageways shown.
D2.12	Roof as open space	X		Roof, used as a communal space, is served by two exits.
D2.13	Treads and risers	✓	Compliance advice	Ensure rise and run dimensions comply. Provide detail with CC application.
D2.14	Landings	✓	Compliance advice	Ensure min dimensions of landings achieved. Provide detail with CC application.
D2.15	Thresholds	✓	✓	To comply.
D2.16	Balustrades	✓	Compliance advice	Ensure compliance with this clause. NOTE: Egress stair must comply with D2.16(a) and AS1428.1-2009 is required.
D2.17	Handrails	✓	Compliance advice	Detail not shown. Ensure compliance with this clause.
D2.18	Fixed platforms, walkways stairways and ladders	✓	Compliance advice	Compliance with AS 1657 required for access to and within plant rooms.
D2.19	Doorways and doors	X		No revolving, sliding or roller shutter exit shown.



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CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D2.20(a)	Swinging doors	✓	✓	Noted
D2.20(b)	Swinging doors	✓	✓	Complies.
D2.21	Operation of latch	✓	Compliance advice	Lever handles required to exit doors and doors in a path of travel to an exit.
D2.22	Re-entry from fire isolated exits	✓	✓	Re entry to be permitted on each level.
D2.23	Signs on doors	✓	Compliance advice	Signage required to fire doors to fire isolated stairs.
D2.24	Protection of openable windows	✓	Compliance advice	Applies to new windows only. A window opening must be provided with protection, if the floor below the window is 2m or more above the surface beneath in a bedroom of a class 2 or 3 unit. Provide detail with CC application.

PART D3 – ACCESS FOR PEOPLE WITH DISABILITIES

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
D3.0	Deemed-to-Satisfy Provisions	✓		Noted.
D3.1	General access requirements	✓	Compliance advice	Access to each level is provided by two lifts in each building.
D3.2	Access to buildings	✓	✓	
D3.3	Parts of building to be accessible	✓	✓	<p>Class 2 Common areas only (stair), access to unit doors, and 7a parts.</p> <p>The principal entry door at the ground level passage providing access to the lift must comply with AS1428.1-2009.</p> <p>The internal fire stairs must be constructed in accordance with AS1428.1-2009, which means each tread is to be provided with a contrast strip.</p>
D3.4	Exemptions	✓		Plant room only.
D3.5	Car parking	✓	Compliance advice	<p>Fifteen accessible car parking spaces have been provided. The car spaces comply with AS2890.6 in that a shared zone is provided next to the car space and bollard is NOT shown. 3.8m head height is provided on the plans, which is sufficient room for a wheelchair to be removed from the car roof.</p> <p>Bollard needs to be included in the shared zone.</p>
D3.6	Signage	✓	Compliance advice	Exit signs must have braille and tactile signage identifying the word “exit” and “level” followed by the floor level number. Provide detail with CC application.
D3.7	Hearing Augmentation	X	NA	
D3.8	Tactile Indicators	✓	✓	Tactile indicators required to stairway, access ramps and the principle pedestrian entrance, to be shown on CC plans.
D3.9	Wheelchair seating spaces in Class 9b assembly buildings	X	NA	
D3.10	Swimming Pools	X	NA	
D3.11	Ramps	✓	Note	Access ramps comply with 1428.1
D3.12	Glazing on Accessway	✓	Compliance advice	This provision requires there to be a contrasting strip, chair rail, handrail or transom across all frameless or fully glazed doorways and surrounding glazing capable of being mistaken for an opening.

SECTION E - SERVICES AND EQUIPMENT

Part E1 - FIRE FIGHTING EQUIPMENT

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
E1.0	Deemed-to-Satisfy Provisions	✓		Noted
E1.1	*****			Repealed
E1.2	*****			Repealed
E1.3	Fire Hydrants	✓	✓	Hydrant coverage to be provided in compliance with AS 2419.1. A hydrant booster and pumpset will be required to serve internal hydrants throughout. Total floor area is greater than 500m ²
E1.4	Hose Reels	✓	Compliance advice	Fire Hose Reels are not required to be installed in the class 2 residential unit parts however are required to be installed in the basement carpark.
E1.5	Sprinklers	✓	Compliance advice	Sprinklers required to both basement carparks as the number of cars exceeds 40 (61 + 115 + 78) and is a large isolated building. A sprinkler valve room and pumpset will be required in accordance with AS 2118.1-1999.
E1.6	Portable Extinguishers	✓	Compliance advice	PFE's to be installed throughout in accordance with AS 2444.
E1.7	*****			Repealed
E1.8	Fire Control Centres	✓	NA	Not required. Less than 25m.
E1.9	Fire precautions during construction	✓		Builder to ensure extinguishers on site during construction.
E1.10	Provision for special hazards	X		The building is assumed not to incorporate any special hazards.

Part E2 - SMOKE HAZARD MANAGEMENT

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
E2.0	Deemed-to-Satisfy Provisions	✓		Noted
E2.1	Application of Part	✓		Applies
E2.2	General requirements (including Tables E2.2a & b)	✓	Compliance advice	An automatic smoke detection and alarm system complying with Clause 3 or clause 4 of Spec E2.2a required throughout the building. AS 3786 smoke alarm system required to class 2 SOU's and AS 1670.1 smoke detection system to common areas. BOWS in accordance with Clause 6 of Spec E2.2a to be installed. Carpark to be provided with AS 1670.1 smoke



				<p>detection system and to activate carpark exhaust system in accordance with clause 5.5 of AS 1668.1.</p> <p>Air pressurisation required to fire isolated stair to basement levels which serve more than two storeys below ground level.</p>
E2.3	Provision for special hazard	X		The building is assumed not to incorporate any special hazards.

Part E3 - LIFT INSTALLATIONS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
E3.0	Deemed-to-Satisfy Provisions			Noted
E3.1	Lift installations	✓	Compliance advice	Installation must comply with Spec. E3.1
E3.2	Stretcher facility in lifts	✓	✓	Buildings have an effective height of more than 12 m. Drawings indicate approx. 2000mm x 2000mm inside the lift, which would provide a stretcher facility comfortably.
E3.3	Warning against use of lifts in fire	✓	Compliance advice	Signage required.
E3.4	Emergency lifts	✓	Compliance Advice	Emergency lift not required.
E3.5	Landings	✓	Compliance advice	Required
E3.6	Passenger lifts	✓	Compliance advice	Required to class 2 and identified in Table E3.6a and have accessible features in accordance with Table E3.6b.
E3.7	Fire Service Controls	✓	Compliance advice	As the building is over 12m, this is a requirement. Fire service controls include a fire service recall control switch complying with E3.9 and a lift car fire service drive control switch complying with E3.10.
E3.8	Aged Care buildings	X	NA	
E3.9	Fire Service Recall Control Switch	✓	Compliance advice	Required by E3.7
E3.10	Lift Car Fire Service Drive Control Switch	✓	Compliance advice	Required by E3.7

Part E4 - EMERGENCY LIGHTING, EXIT SIGNS AND WARNING SYSTEMS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
E4.0	Deemed-to-Satisfy Provisions	✓		Noted
E4.1	*****			Repealed
E4.2	Emergency Lighting Requirements	✓	Compliance advice	<p>Emergency lighting is to be provided in the egress stair and carpark in accordance with this clause and AS 2293.1-2005.</p> <p>Not required within residential units.</p>



E4.3	Measurement of distances	✓		Noted
E4.4	Design and operation of emergency lighting	✓	Compliance advice	The emergency lighting provided must comply with AS 2293.1-2005 to enclosed corridors and fire-isolated stair.
E4.5	Exit signs	✓	Compliance advice	Exit signs must be installed in accordance with this clause and AS 2293.1-2005 to carpark and enclosed corridors.
E4.6	Direction signs	✓	Compliance advice	Required where applicable.
E4.7	Class 2 and 3 Buildings and Class 4 parts exemptions	X		Not applicable to this class 2 building.
E4.8	Design and operation of exit signs	✓		Noted
E4.9	Sound system	✓	NA	NA

SECTION F - HEALTH AND AMENITY

Part F1 - DAMP & WEATHER PROOFING

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F1.1	Stormwater drainage	✓	Compliance advice	Stormwater drainage must comply with AS/NZS 3500.3.
F1.4	External above ground membranes	✓	Compliance advice	Must comply AS 4654 Parts 1 & 2
F1.5	Roof coverings	✓	Compliance advice	Roof covering must comply with AS 1562.1.
F1.6	Sarking	✓	Compliance advice	Sarking materials to comply with AS NZS 4200 Parts 1 and 2 and Spec C1.10.
F1.7	Waterproofing of wet areas in buildings	✓	Compliance advice	Wet areas must be waterproofed to AS 3740.
F1.8	*****		Compliance advice	Blank
F1.9	Damp-proofing	✓	Compliance advice	Damp proofing must be provided in accordance with F1.9.
F1.10	Damp-proofing of floors on the ground	✓	Compliance advice	A vapour barrier is to be provided to floors laid directly on ground in accordance with AS 2890.
F1.11	Provision of floor wastes	✓	Compliance advice	Floor wastes to be provided to sanitary compartments, laundries and bathrooms.
F1.12	Sub-floor ventilation	✓		No suspended floors..
F1.13	Glazed assemblies	✓	Compliance advice	Glazed assemblies must comply with AS 2047 and AS 1288.

Part F2 - SANITARY & OTHER FACILITIES

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F2.0	Deemed-to-Satisfy Provisions	✓		Noted



F2.1	Facilities in residential buildings	✓	✓	Each unit must have a space for a dryer or space for at least 7.5m of clothesline. A cleaner's sanitary facility is provided in 2 areas near ground level. Complies.
F2.2	Calculation of number of occupants and fixtures	✓	✓	Noted
F2.3	Facilities in Class 3 to 9 Buildings, Table F2.3	✓	✓	Noted
F2.4	Accessible Sanitary Facilities	✓	Compliance advice	Accessible facilities not required to class 2 units. Recommend Unisex Accessible Toilet in addition to F2.1.
F2.5	Construction of sanitary compartments	✓	Compliance advice	Doors to sanitary compartments that swing inwards must be readily removable from the outside of the sanitary compartment
F2.6	Interpretation: urinals and wash basins	✓	✓	NA
F2.7 NSW	Microbial (legionella) control	✓	Compliance advice	Hot water, warm water and cooling water systems to be installed in accordance with AS 3666.1.
F2.8	Waste Management	X	NA	Not a class 9a or 9c building.

Part F3 - ROOM SIZES

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F3.0	Deemed-to-Satisfy Provisions	✓		Noted
F3.1	Height of rooms	✓	✓	Drawings indicate ceiling compliance. Assuming 200mm floor/ceiling thickness, each level is between 2800mm and 2900mm high and level 01 is 3900mm. Complies.

Part F4 - LIGHT AND VENTILATION

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F4.0	Deemed-to-Satisfy Provisions	✓		Noted
F4.1	Provision of Natural light	✓	✓	Capable of complying.
F4.2	Methods and extent of natural lighting	✓	✓	Natural light provided.
F4.3	Natural light borrowed from adjoining room	✓	✓	Natural light to be compliant
F4.4	Artificial lighting	✓	✓	Artificial lighting to be designed and installed in accordance with AS 1680.0.
F4.5	Ventilation of rooms	✓	✓	Appears compliant
F4.5 (b) NSW	Mechanical Ventilation	✓	Compliance advice	If mechanical ventilation is proposed to sanitary compartments then must be installed in accordance with AS3666.1.
F4.6	Natural ventilation	✓	✓	Natural ventilation provided to SOU habitable rooms.



F4.7	Ventilation borrowed from adjoining rooms	✓	✓	Ventilation for bedrooms can be relied upon as borrowed ventilation if required to achieve compliance
F4.8	Restriction on position of water closets and urinals	✓	✓	Does not open directly to eating or food prep area.
F4.9	Airlocks	X		Not required
F4.10	*****			Repealed
F4.11	Car parks	✓		Mechanical ventilation is required to AS1668.1. Building is capable of complying.
F4.12	Kitchen local exhaust ventilation	X		No commercial kitchen.

Part F5 - SOUND TRANSMISSION AND INSULATION

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
F5.0	Deemed-to-Satisfy Provisions	✓		Noted
F5.1	Application of Part	✓		Applies to class 2 parts.
F5.2	Determination of airborne sound insulation ratings	✓		Noted
F5.3	Determination of impact sound insulation ratings	✓		Noted
F5.4	Sound insulation rating of floors	✓	Compliance advice	Slabs to be 200 thick minimum.
F5.5	Sound Insulation of walls between units	✓	✓	For walls separating a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification, the wall must have a R_w not less than 50. For walls separating habitable areas (excluding a kitchen) in one sole-occupancy unit from a bathroom, laundry, kitchen or sanitary compartment in an adjoining unit, the wall must be discontinuous construction. Drawings do not indicate discontinuous construction between these areas, however it is assumed that this will be constructed.
F5.6	Sound insulation rating for services	✓		Ratings to be achieved for service ducts.
F5.7	Isolation of Pumps	X		No pumps indicated on plans.
F5.8	Walls between a bedroom and kitchen or laundry in Class 9c building	X		Not a class 9c.
Spec F5.2	Sound isolation for building elements	X		Noted
Spec F5.5	Impact Sound Test Equivalence	X		Noted

SECTION G - ANCILLARY PROVISIONS

Part G1 - MINOR STRUCTURES & COMPONENTS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
G1.0	Deemed-to-Satisfy provisions	X		Noted
G1.1	Swimming pools	X	NA	
G1.2	Refrigerated chambers, strong rooms & vaults	X		
G1.3	Outdoor Play spaces	X		Only applies to Early Childhood Centres
NSW G1.101	Provision for cleaning windows	✓	Compliance advice	A building must provide a safe manner of cleaning any windows located 3 or more storeys above ground level.

Part G2 - HEATING APPLIANCES, FIRE PLACES, CHIMNEYS & FLUES

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
G2.0	Deemed to satisfy provisions	✓		Noted
G2.1	*****			Blank
G2.2	Installation of appliances	X		No solid fuel burning heaters proposed.
G 2.3	Open fireplaces	X		No open fireplaces proposed.
G2.4	Incinerator rooms	X		No incinerators proposed.

Part G3 - ATRIUM CONSTRUCTION

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
G3.1	Atriums affected by this Part	X		The building does not have an atrium.

Part G4 - CONSTRUCTION IN ALPINE AREAS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
G4.0	Deemed to satisfy provisions	x		Not applicable, building below 1200m altitude.

Part G5 - CONSTRUCTION IN BUSHFIRE PRONE AREAS

CLAUSE	REFERENCE	APPLICABLE	COMPLIES	COMMENT
G5.0	Deemed-to-Satisfy provisions	X		Noted
G5.1	Application of this Part	X		Not applicable – not in bushfire prone zone.

4.0 CONCLUSION

The primary purpose of this report is to identify non-compliance matters in comparison to the current Deemed-to-Satisfy provisions of the BCA under Parts C, D, E, F and G. This report has identified several non-compliances, which need to be addressed via a change in the architectural details or via an alternative solution or fire-engineered solution.

Report By:



James Sunjaya

Director
MFSE, B.Eng. (Elec.), B.Med.Sci.
BPB Accredited Fire Engineer Grade C10
Registered Building Practitioner (Fire Safety)
Registered Professional Engineer Queensland
NPER and CPEng (Fire Safety, Building Services)



James Alexander

Director
B. App.Sci (Bldg), Grad Dip (Disp Res), ME(Fire safety), Grad Dip (Bldg Surv)
AIBS Nationally Accredited Level 1 Building Surveyor
BPB Grade A1 Accredited Certifier and PCA
Fire Safety Engineer