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BCA COMPLIANCE ASSESSEMENT REPORT

465-469 Princes Highway, Rockdale NSW 2216

**Proposed mixed use (commercial/residential)
building with associated basement level car parking**

Report Number	A24_275_BCA	
Revision Number	Stage	Date of Issue
01	Issue for DA – draft	29.07.2024
02	Issue for DA	25.09.2024

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1.0 Introduction & Report Basis

Absolute BCA & Accessibility has been engaged by Emag Apartments to prepare this BCA compliance assessment report for the proposed mixed use (commercial and residential) building with associated basement level car parking, 465-469 Princes Highway, Rockdale NSW 2216

The purpose of this report is to provide:

1. A high-level assessment of the proposed design/building against the significant design requirements of the of the BCA; and
 2. Recommendations to address any identified significant design issues.
- Recommendations are provided in Section 4.0.

It is understood that this report will be used to support the Development Application for the subject development.

1.1 Assessed Information

The following information was specifically relied upon for this assessment:

Document Type	Prepared by	Reference or Revision Number
Architectural Plans	Axel Richter Architects	Rev A 16.09.2024

1.2 Relevant BCA Volume & Sections.

The Building Code of Australia (National Construction Code) 2022 Volume 1

Section	Addressed
A – Governing Requirements	Informational
B – Structure	No - Addressed by structural engineers
C – Fire resistance	Yes - Addressed in this report
D – Access and egress	Yes - Addressed in this report
E – Services and equipment	Yes - Addressed in this report
F – Health and amenity	Yes - Addressed in this report
G – Ancillary provisions	Yes - Addressed in this report
I – Special use buildings	Yes - Addressed in this report
J – Energy efficiency	No - Addressed by energy efficiency consultants

1.3 Assumptions, Limitations & Exclusions

- This report is intended to support the Development Application (or similar) stage design and identifies *significant* design issues only. For the purposes of this report, significant design issues are:
 - Non-compliance with DTS provisions that would likely necessitate significant changes alterations to the current plans (changes which would be expected to necessitate a \$4.55 if carried out post Consent).
 - Non-compliance with DTS provisions that would likely necessitate the development of a Performance Solution. It is noted that some Performance Solutions will necessitate design change. It is the applicant's responsibility to confirm the extent of required design changes with the author of any proposed Performance Solution.

A further detailed assessment would typically be undertaken Construction Certificate Application (CCA) stage.

- The Report only assesses the information specifically referenced in Section 1.1 of this report. This information is accepted in good faith as accurate and correct.
- The report is limited to assessment of the development against the deemed-to-satisfy provisions of the applicable Building Code of Australia.
- No assessment has been made of any existing Fire Engineering or BCA Performance Solution based Reports that may apply to the base building or development, unless otherwise specifically noted.
- In terms of development within existing buildings (or adjacent to existing buildings), it must be ensured that the *subject works* do not:
 - cause a BCA non-compliance within the existing building; or
 - aggravate an existing non-compliance within the existing building.

Subject to consideration of the above comments, this report has not considered the requirement for the upgrade of existing building in terms of BCA compliance. It should be noted that further upgrade works may be required by Consent Authorities or other stakeholders. Any such requirement should be advised to Absolute BCA as soon as practical.

- Some requirements of the BCA / Access Regulations are recognised as being interpretive in nature. Where these matters are encountered, interpretations are made in accordance with Absolute policy &/or as guided by other standards, guides and industry best practice.
- Absolute BCA does not support the use of combustible cladding or aluminium composite panels as external cladding, lining or ancillary element in any way. Such products are recommended to be avoided and where such products are proposed, Absolute BCA automatically excludes their assessment from any reporting and certification and will not accept liability for their use in any way.
- Detailed assessment of any engineering matters or Australian Standards– e.g: structural, civil, electrical, hydraulic, mechanical, fire, bushfire protection is beyond the scope of this report.
- The Report does not provide any Performance Solutions.

2.0 BCA Assessment Data

BCA Reference	Subject Building	
A6 Classification	2 (residential)	<input type="checkbox"/>
	3 (residential – short term)	<input checked="" type="checkbox"/>
	4 (single dwelling in an otherwise non-residential building)	<input type="checkbox"/>
	5 (commercial – office)	<input type="checkbox"/>
	6 (retail)	<input checked="" type="checkbox"/>
	7a (carparking)	<input checked="" type="checkbox"/>
	7b (storage)	<input type="checkbox"/>
	8 (factory/industrial)	<input type="checkbox"/>
	9a (hospital/health care)	<input type="checkbox"/>
	9b (assembly/public building)	<input type="checkbox"/>
	9c (aged care)	<input type="checkbox"/>
C2D3 Rise in Stories	12	
C2D2 Construction Type	Type A (most fire resisting)	<input checked="" type="checkbox"/>
	Type B	<input type="checkbox"/>
	Type C (least fire resistant)	<input type="checkbox"/>
C3D3 Floor areas and Fire Compartment Limitations	Floor area and volume of fire compartments in accordance with Table C3D3	<input checked="" type="checkbox"/>
	Large Isolated Building in accordance C3D4	<input type="checkbox"/>
Scd 1 Effective Height	Less than 12m	<input type="checkbox"/>
	More than 12m but less than 25m	<input type="checkbox"/>
	More than 25m but less than 50m	<input checked="" type="checkbox"/>

3.0 BCA Compliance Assessment (& Minor Recommendations)

The plans identified in Section 1.1 of this report have been assessed against the DTS requirements of the BCA – which are considered relevant to the current stage of design (Development Application). A summary of these requirements is provided below. Details demonstrating compliance would typically be provided at CC stage.

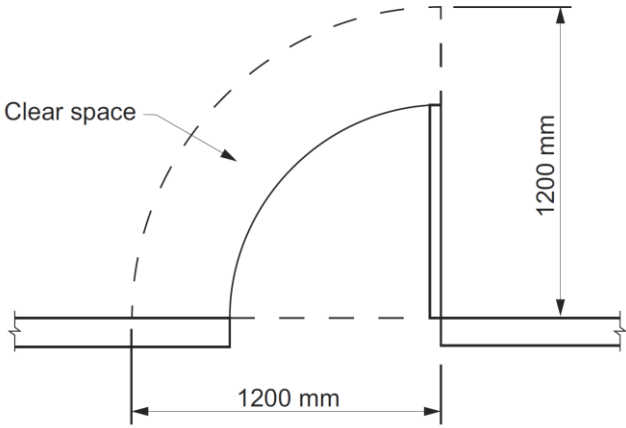
Note Section 4.0 of this report contains recommendations to address significant non-compliances or items reproposed/required to be supported via performance solution or design change.

#	Section C
a)	<p><i>Fire Resistance Levels (C2D2)</i></p> <p>In accordance with BCA C2D2, the building is required to achieve a minimum type A construction & building elements must comply with BCA Specification 5.</p> <p>The following elements are typically required to achieve an FRL:</p> <ul style="list-style-type: none">• External walls/columns (depending on distance to fire source features)• Internal walls/columns (separating residential SOU's, fire walls and common walls, walls separating main switch rooms and emergency equipment)• Floor slabs between storeys• Fire isolated lift and stair shafts (noting requirements for emergency lifts)
b)	<p><i>Non-combustible construction & ancillary elements (C2D10 & C2D14)</i></p> <p>As the building is required to be of Type A construction, the following elements must be <u>non-combustible</u>:</p> <ul style="list-style-type: none">• External walls and common walls, including all components incorporated in them including the facade covering, framing and insulation.• The flooring and floor framing of lift pits.

	<ul style="list-style-type: none"> • Non-loadbearing internal walls where they are required to be fire-resisting. • Ancillary elements (attachments to external walls)
c)	<p><i>Fire Hazard Properties (C2D11)</i></p> <p>The fire hazard properties of floor linings and floor coverings, wall linings and ceiling linings, air-handling ductwork and lift cars, following internal linings, materials and assemblies within a Class 2 to 9 building must comply with BCA Specification 7.</p>
d)	<p><i>Fire Separation of Classifications (C3D9 & C3D10)</i></p> <p>The carpark portion must be fire separated from the residential portions in construction achieving a FRL of 120mins. This appears generally achievable within the current design – subject to additional detail being provided at CC stage.</p>
e)	<p><i>Fire Separation of Equipment (C3D13)</i></p> <p>Unless the building is protected with a sprinkler system as per AS2118.1 or FPAA101H, the fire hydrant pump room will need to be fire separated from the remainder of the building in construction achieving a FRL of at least 120/120/120.</p>
f)	<p><i>Bounding construction – rooms openings into public corridors in Class 2 -4 parts (C4D12)</i></p> <p>Despite the corridors being partially open in nature, it is recommended that they be treated as internal corridors for the purposes of Clause C4D12 (i.e. - /60/30 self-closing fire doors should be provided to unit entry doors).</p>
Section D – Access & Egress	
g)	<p><i>Exit dimensions (D2D7 – D2D9)</i></p> <ul style="list-style-type: none"> • Exits must be not less than 1m wide x 2m high • This dimension can be reduced at doorways to 750mm x 1980mm
h)	<p><i>Travel Via Fire Isolated Exits (D2D12)</i></p> <p>Ensure openings which face the egress path between the discharge of fire isolated exits and the street are protected <i>internally</i> in accordance with BCA C4D5.</p>

i)	<p><i>Discharge of exits (D2D15)</i></p> <p>The path of travel from the exits to the street must comply with BCA D2.</p>
j)	<p><i>Goings and Risers (D3D14)</i></p> <p>Stair details to be provided on CC plans.</p>
k)	<p><i>Balustrades (D3D17-D3D21)</i></p> <p>Balustrade details to be provided on CC plans.</p>
l)	<p><i>Handrails (D3D22)</i></p> <p>Provide handrail details on plans. Note a handrail is typically required to be provided to at least one side of all stairs (within additional accessibility requirements applying to stairs in common areas)</p>
m)	<p><i>Re-entry from Fire Isolated Exits (D2D27)</i></p> <p>Doors to fire isolated exits must typically allow free access/egress from both sides of the door (with some concessions available)</p>
Section E – Services and Equipment	
n)	<p>The following services and equipment are required to be installed.</p> <ul style="list-style-type: none"> i. E1D2 – Fire hydrants (AS2419.1 -noting the 2021 standard is now in place). ii. E1D3 – Fire hose reels (AS2441) – <i>nb. not required in class 3 or 5 parts.</i> iii. E1D4 - Sprinkler systems (AS2118.1) iv. E1D14 – Portable fire extinguishers (AS2444) v. E1D15 – A fire control centre must be provided vi. E2D3 – Smoke hazard management: <ul style="list-style-type: none"> a. Automatic pressurisation of fire isolated exits (AS1668.1)

	<p>b. Smoke detection and alarm system (AS1670.1 + AS3786)</p> <p>c. Carpark ventilation system (Clause 5.5 of AS1668.1)</p> <p>vii. E3 – Stretcher facilities & fire service controls required in lifts (ensure lift car can accommodated stretchers (600 mm wide x 2000 mm long x 1400 mm high above the floor level)</p> <p>viii. E3D5 – Emergency lifts must be provided.</p> <p>ix. E4 – Exit and emergency lighting (AS2293.1)</p> <p>x. E4 – Emergency Warning and Intercommunication System (EWIS) Systems (AS1670.4)</p>
Section F – Health and Amenity	
o)	<p><i>Surface Water, rising damp & external waterproofing (Part F1)</i></p> <ul style="list-style-type: none"> Stormwater design details and certification to be provided by hydraulic consultation. Details for external waterproofing to be provided by architecture/civil engineer as relevant (CC stage).
p)	<p><i>Wet Areas (Part F2)</i></p> <p>Details for waterproofing to be provided by architect as required (CC stage).</p>
q)	<p><i>Roof & Wall Cladding (Part F3)</i></p> <p>Details for roof and wall cladding to be provided by architect (CC stage).</p>
r)	<p><i>Sanitary facilities (Part F4)</i></p> <p>Facilities must be provided as per F4D2 –Sufficient space should be allowed for facilities for the commercial/retail tenancies (noting that accessible facilities are typically required for each)</p> <p>Note under F4D8 0 where a 1.2m clear space is not provided to inwards swinging WC doors, lift off hinges will need to be provided.</p>

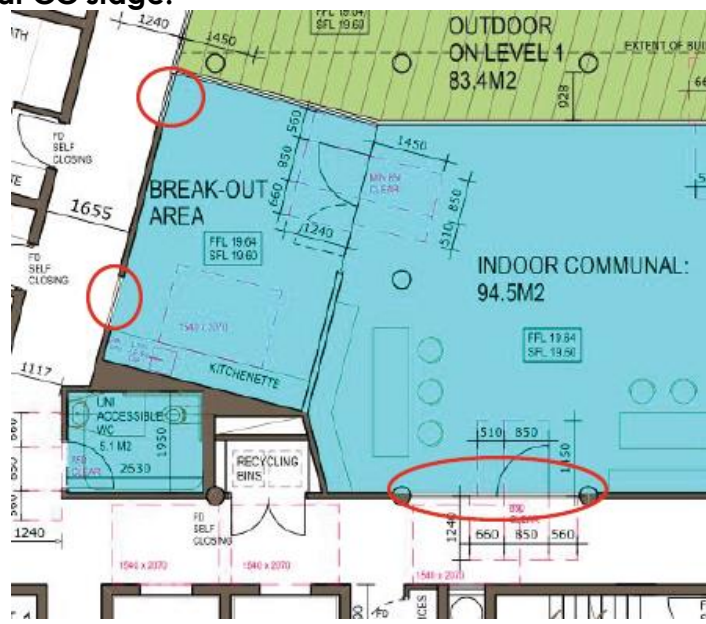
	<p>Construction of sanitary compartments</p> 
s)	<p><i>Room Heights (Part F5)</i></p> <p>Room heights to be detailed on CC plans (generally 2.4m required for habitable areas and 2.1m for non-habitable areas)</p>
t)	<p><i>Light & Ventilation (Part F6)</i></p> <ul style="list-style-type: none"> • Architect to confirm that all habitable rooms are provided with windows providing an aggregate light transmitting area of 10% of the floor area of the room (CC stage). • Architect/mechanical consultant to provide confirmation that rooms are provided with natural/mechanical ventilation as per BCA F6D6/F6D7. • Artificial light required to be provided as per BCA F6D5 • The mechanical consultant to provide design details for mechanical ventilation system to carpark to AS1668.2
u)	<p><i>Sound transmission and insulation (Part F7)</i></p> <p>Acoustic separation is required between units and between units and other parts of the building. Specific design details required at CC stage.</p>

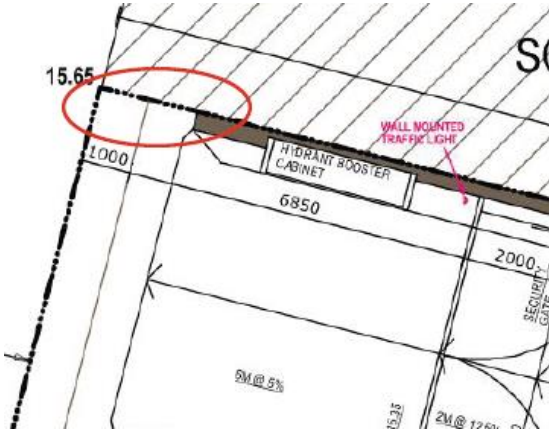
4.0 Significant Recommendations

The following matters will need to be addressed by design change &/or Performance Solution.

Note plan extracts are provided as examples of affected areas and are not intended to identify all non-compliances.

Where a Performance Solution is proposed, it is the applicant's responsibility to clarify with the clarify any expected design changes with the author of the Performance Solution Report.

#	DTS Clause	Description of Non-Compliance
a)	C2D2 C4D12	<p>Fire Separation between internal common areas and public corridors (& bounding construction)</p> <p>The BCA DTS provides requires that in a Class 3 building, rooms not within Sole Occupancy Units (SOU's) must be fire separated from public corridors.</p> <p>Furthermore, window openings in these walls are not permitted.</p> <p>It appears the current design proposes window opening in these walls so as to improve natural light and visibility throughout this portion of the building.</p> <p>It is recommended that this be addressed via performance solution (fire engineer) at CC stage.</p> 

b)	C4D3	<p>Protection of openings in external walls</p> <p>Openings in external walls less than 3m from the side boundary - the garage door opening as shown in red below is partially exposed to the northern allotment boundary.</p> <p>It is suggested this be resolved by performance solution (fire engineer) at CC stage.</p> 
c)	C3D15	<p>Public Corridors in Class 3 Buildings</p> <p>There are public corridors which exceed a length of 40m and which do not appear to have been separated into smoke compartments.</p> <p>This can be addressed by adding smoke doors to the corridor or addressed by performance solution (fire engineer) at CC stage.</p>
d)	C4D10	<p>C4D10 Service penetrations in fire-isolated exits</p> <p>The services/garbage shaft should not be located in the fire isolated exit.</p> <p>Suggest relocating or seek performance solutions (fire engineer) at CC stage.</p>
e)	E2D4	<p>Automatic Pressurization of Egress Stairs</p> <p>Allow sufficient space for auto pressurization of egress stairs. Seek advice from fire services/mechanical consultant.</p>

5.0 Conclusion

This report has assessed the subject building against the National Construction Code (NCC) / Building Code of Australia (BCA) 2022 (as relevant to the Development Application stage design).

Subject to compliance with any recommendations listed in Section 4.0 of this report, the development is considered capable of complying with the BCA, within the constraints of the current design.

Note – In addition, Section 3.0 contains a summary of BCA compliance matters that will need to be addressed at CC stage (compliance with these matters however is not expected to significantly impact the current design).



Paul O'Shannassy

Director

Absolute BCA & Accessibility Consulting Pty Ltd

Accredited BCA Consultant / Certifier (Highest Level) BDC No. 0825

Qualified DDA Accessibility Consultant & Associate Member with ACAA No. 0594

Accredited Level 1 Building Surveyor AIBS Accreditation No: 8189

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