

Ref: 14691/03

18<sup>th</sup> January 2024

Mr. Frank Raunik  
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**BA Number: 14691**

**BCA High Level Review of New Residential Apartments at 1 Philip Street  
Goonellabah NSW**

Axis Building Certification have prepared high level compliance advice against the National Construction Code Volume 1 2022 (NCC) in relation to a proposed development as detailed in development approval design package issued by Raunik Design Architects on 15<sup>th</sup> January 2024 with subsequent revisions issued on 17/01/2024. Where an Australian Standard is referenced, this is a reference to the year of the standard as detailed in the NCC 2022.

The intent of this report is to:

- Identify the overarching compliance strategy for the proposed development.
- Provide advice regarding triggers for significant compliance requirements.



### **Building Description**

The project consists of a class 2-unit development comprising 18 units on two levels over ground Level 1 carparking containing 19 car parking spaces and lift access to floors above.

The sloping nature of the site entails the building to be cut into the site with ground floor car parking positioned partially below ground.

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|-----------------------------------|---|
| <b>Building Description</b>       | Residential Unit Development  |
| <b>Classification</b>             | Class 2 residential accommodation<br>Class 7a car parking   |
| <b>Rise-in-Storeys</b>            | Rise of 3 storeys applies   |
| <b>Type of Construction</b>       | <b>Type A</b> construction throughout   |
| <b>Effective Height</b>           | 6.1m approx.  |
| <b>Floor areas</b>                | 903 m <sup>2</sup> Level 1<br>903 m <sup>2</sup> Level 2<br>947 m <sup>2</sup> Level 3  |
| <b>Required Key Fire Services</b> | <ul style="list-style-type: none"> <li>• Fire Hydrants</li> <li>• Fire extinguishers</li> <li>• Smoke alarm and detection system complying with Specification 20</li> <li>• Emergency lighting and exit signage.</li> <li>• Shutdown of any air handling system serving multiple fire compartments</li> </ul> |

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| <b>Other Key Building Descriptions</b> | <p>Proposed development is located in Bushfire Prone Land Vegetation Buffer which can be deemed a Designated bushfire prone area defined as “Land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires”.</p> <p>Structure – Importance Level IL2</p> |
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## General BCA requirements

### Section B – Structural Provisions

Structural engineers design and certification to consider Section B requirements of NCC. Structural design and certification to be provided as design progresses.

The proposed building is currently assumed to contain an estimated population less than 300 congregating in one area and a minimum Structural Importance Level of IL2 is expected to apply to the overall development.

The nature and type of structural system options is to be confirmed. It is anticipated that concrete floors, concrete columns and block walls will be allowed for utilising a combination of suitable precast & insitu systems.

### Section C – Fire Resistance

The development is a Class 2 building with class 7a car parking at partially enclosed ground level and type A construction applies. The proposed development external walls and wall elements are to be constructed of non-combustible materials as tested to AS1530.1.

The current proposal to use “Weathertex” hardwood timber cladding will have to be revised where all external cladding and associated attachments must be non-combustible as tested to AS1530.1.

BCA clause C3D3 Fire compartment parameters do not apply to class 2 units.

Type A FRL’s apply to building elements as per table S5C11a, elements such as external walls, external columns, internal walls and columns, fire walls, floors, shafts and lift shafts require protection. Type A FRL’s for class 2 are typically 90/90/90 as prescribed in table S5C11a. The proposed level 1 carparking should be separated from the units above with 120/120/120 FRL construction. FRL’s are to be considered as part of structural engineer’s review as design progresses.

Vertical separation between external wall openings between storeys is required in this type A construction building and the use of vertical spandrel or horizontal slab construction is considered within the current building design to ensure DtS requirements are achieved.

Please note the current floor layout indicates openings in unit balconies at ground, 1<sup>st</sup> and 2<sup>nd</sup> floor levels located less than 3m from the allotment side boundary, however under BCA 2022 clause S5C6 a balcony in type A construction situated not more than 2 storeys above storey providing direct egress to road or open space leading to road does not require to achieve compliance with table S5C11c & S5C11g.

### **Sections D2 and D3 – Egress Provisions**

The NCC sets out general allowable exit travel distances for the various building classes as follows.

**Class 2 buildings:** 6m to a single exit or a point of choice, or 20m to a single exit at the level of road or open space. Distance between alternative exits not less than 9m and not more than 45m apart.

**Class 5 to 9 buildings:** 20m to a single exit or a point of choice to 2 exits, with total travel to one of those exits being no more than 40m. In a class 6 building the travel distance may be extended up to 30m to a single exit. Distance between alternative exits not less than 9m and not more than 60m apart.

The latest architectural design indicates compliant travel distances can be achieved.

The current design layout includes for two fire isolated stairs, serving level 3, leading to formal pathways at level 2 that lead directly to public road. These stairs pass through a maximum of two storeys and are not required to be fire isolated, which mitigates the need to provide protection to the building external wall and associated openings located 6m measured at right angles to the path of travel from fire isolated exit to public road.

The current design indicates path of travel to required exits at level 2 along common corridors adjacent to enclosed stairwells (serving level 3) appear to be less than 1.0m in width and require further design clarification.

#### **Section D4 – Access for People with a Disability**

Access is required to and within all areas normally used by the occupants to all part of the common areas and up to the doorway of each SOU.

A lift will be provided for vertical transportation between all floor levels.

Access is required from allotment boundary to the doorway of each SOU in accordance with AS1428.1. Door circulation spaces will apply to gates serving common areas and wheelchair turning spaces are required at the common entrance pathway and into the building SOU doorways with 1540mm x 2070mm turning space required at ends of corridors. Further detail and consideration to these areas are required as design progresses.

Typically NSW local authorities require compliance with AS4599-1995 “Adaptable Housing” in lieu of compliance with BCA 2022-part G7 “Liveable Housing Design “. This will require review of floor levels, door widths and circulation spaces, requirements or sanitary facilities, kitchen areas, bedrooms, living areas and laundry areas.

#### **Section E- Services and Equipment**

A fire hydrant system is required to serve this building as the floor area exceeds 500m<sup>2</sup>.

The system must cover the entire building in accordance with AS2419.1-2021, including but not limited to:

- **Internal hydrants** - All parts of floor of building must be not more than 40m from internal hydrant.
- **Internal hydrants** - must be located within fire isolated stairs, where non-fire isolated stairs are provided hydrants must be located within 4m from a required exit.
- **External feed hydrants** - All parts of building must be not more than 70m from fire brigade pumping appliance connected to an external feed fire hydrant.
- **External attack hydrants**- All parts of building must be not more than 70m from the external attack hydrant.

Where coverage is proposed from a street hydrant, adequate flow and pressure in the street must be available in accordance with the requirements of AS2419-2021.

The building has a rise in storeys of less than 4 with less than 40 internal car parking spaces provided and is therefore not required to be provided with a sprinkler system.

Fire hose reels are not required to serve class 2 buildings; however, fire extinguishers are required in lieu of in accordance with AS2444.

The building must be provided with a smoke detection and alarm system in accordance with Specification 20 of NCC.

### **Section F – Health and Amenity**

External weatherproofing of external walls must be achieved, where the DTS provisions of F3D5 will not be met this will require provision of a performance report to confirm compliance of external walls in accordance with the performance requirements of F3P1.

Natural light at the rate of 10% of the room floor area and 5% for natural ventilation is required to all Class 2 units. The current design appears to be generally capable of compliance subject to further design detail.

Ceiling heights are to be a minimum 2.1m for kitchens, laundry, corridors etc. and a minimum 2.4 for all habitable rooms. Current design indicates compliance.

As the design progresses it is assumed that all unit bathrooms and laundries located at any level above a sole-occupancy unit or public space will have a floor waste and where a floor waste is installed (including to balconies) the minimum continuous fall of a floor plane to the waste must be 1:80; and the maximum continuous fall of a floor plane to the waste must be 1:50.

Balconies should be provided with a waterproof membrane complying with AS4654. Balcony termination heights should be designed in accordance with wind class in accordance with AS4654.2. For further consideration as design progresses.

### **Section G5 – Construction in bushfire prone areas**

Proposed development is located in Bushfire Prone Land Vegetation Buffer which can be deemed a Designated bushfire prone area defined as “Land which has been designated under a power of legislation as being subject, or likely to be subject, to bushfires”.

In a designated bushfire prone area the proposed Class 2 building must comply with AS 3959 and must be to reduce the risk of ignition from a design bushfire with an annual exceedance probability not more than 1:100 years, take account of the assessed duration and intensity of the fire actions of the design bushfire, be designed to prevent internal ignition of the building and its contents, and maintain the structural integrity of the building for the duration of the design bushfire.



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### **Section J – Energy Efficiency**

The NCC contains requirements for energy efficiency to ensure that the energy consumed by the building in terms of space heating/cooling, lighting and similar services is not excessive.

A section J assessment report should be provided. It is noted NCC 2022 section J requirements came into effect from 1<sup>st</sup> October 2023.

If you have any queries, please do not hesitate to contact me.

Regards,

A handwritten signature in black ink, reading 'Feargal Ó Catháin'.

Feargal Ó Catháin  
Building Certifier