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BCA CONCEPT REVIEW

Date	3 April 2025
Prepared by	Brett Fennell
BUILDSURV Ref	9563
Job Name	100 Rundle Mall – Adelaide Central Plaza Redevelopment
Proposed works	Alterations for new 30-storey commercial development
Client	Cameron Thompson (Podia)

Hi Cameron,

Reference is made to our meeting and correspondence about the proposed office tower development at the Adelaide Central Plaza site at 100 Rundle Mall, Adelaide SA.

We understand that the proposal will be presented to the State Planning Authority and that a high level NCC review is required to highlight any compliance items against the relevant provisions of the National Construction Code – BCA2022 (Building Code of Australia - BCA).

In relation to the proposed works to the site shown on the extracts from the planning submission by PACT Architects and compliance with the BCA we can provide the following assessment.

SCOPE

Existing

The site is an existing 4 storey retail building with a 2-level basement containing a food court and lower basement area. The site extends from Rundle Mall to the south to North Terrace on the northern side.

The current layout is reflected below including the assumed building classification:

Level 3	Retail	Class 6
Level 2	Retail	Class 6
Level 1	Retail	Class 6
Ground	Retail	Class 6
Basement 1	Food Court	Class 6
Basement 2	Retail	Class 6

We have not sighted a Certificate of Occupancy for the current building class which would also confirm the total occupancy. We would suggest obtaining this from Council for the most recent works undertaken.

New works

The proposed scope of works shown on the plans indicate:

- **Demolition** – partial demolition of the existing building facing North Terrace
- **Lower Basement** – Extension of the basement area and beginning of new amenities, lift and fire stair core
- **Basement -** Creation of lower level food court
- **Ground** – New commercial lobby and café to the North Terrace entry and extension of the existing retail space
- **Level 1** – extension of retail space and void area to lower commercial lobby area
- **Level 2** – new food and beverage precinct
- **Level 3** - Extension of retail space
- **Level 4** - New EOT and wellness centre addition
- **Levels 5 to 30 –** New commercial office space

The roof level is plant only and not considered a storey as prescribed in the BCA. From a NCC perspective the new works will result in the remaining buildings having the following attributes.

NCC Attribute	Assessment
Class	Basement to level 3 – Class 6 Level 4 – Class 9b Levels 5-30 – Class 5
Rise in storeys	31 storeys (basements and roof plant not included)
Type of Construction	Type A

We note that there is some interconnection of floors including:

- Lower food court to Level 2 (4 storeys)
- Possible future interconnection between levels on floors 5-17 (allowance only at this stage)

As such our BCA comments are based on the requirements according to these attributes.

EXECUTIVE SUMMARY

From our review of the proposed design it is our assessment that the following items need to be considered as part of the further design:

1. An assessment of the existing building's ability to resist earthquake loads and the effects of the new structure.

2. The location of the boundary fire source features (on eastern and western sides) and exposure of any openings in walls that may be required to be fire resisting.

3. Addressing current egress distances by justifying extended travel and allowing for future fitout works.

4. Ensuring that the interconnection of floors does not compromise fire and smoke spread between stories.

5. Making sure that the fire safety provisions provided meet BCA and the operational requirements of the SAMFS.

6. Reviewing the sanitary facilities on the lower floors to ensure that the existing facilities provided are adequate for additional occupants or, whether to allow for additional facilities as part of the addition.

7. Engaging with external consultants to ensure that the design meets both the relevant energy efficiency requirements of the BCA and external fabric for weatherproofing.

We cannot see any major BCA compliance impediments for the design that has been presented to us for assessment.

It is our opinion that the items contained in the assessment below would be addressed during further design development to ensure that the building meets the performance requirements of the BCA.

BCA ASSESSMENT

Structure

The work will involve partial demolition of the existing building to make room for the construction of the new office tower. The addition will also have a direct connection to the existing building across an open floor plate from the Basement levels to Level 3.

The main structural items to consider are as follows:

- As the new works are an addition to the main building structure, an assessment of the existing building's ability to resist earthquake loads will be required to determine:
    - The existing building's ability to resist earthquake actions and any alterations required to bring the building up to compliance; and
    - To ensure that the connection of the new to the existing building is done is a manner that will not affect the existing building in an earthquake event.

- As the building abuts the existing eastern boundary (via the eastern link at basement, Level 1 – 3) the engineer will need to consider the effects of the proposed building on the adjacent structures during an earthquake event.

- The building Importance Level will need to be considered by the design team – it is our assumption that more than 300 persons could congregate in one area (i.e. the food court and retail spaces) and as such building Importance Level 3 may be applicable.

Fire resistance

The following items are to be considered in relation to the fire resistance of the proposed building's structural and non-structural elements:

- The existing building is of Type A construction and the new building will be the same. As a building of Type A certain building elements are required to achieve a Fire Resistance level depending on their location, whether they are load-bearing or non load-brearing and, also the classification of the storey above.

- A class a building is permitted to have a maximum fire compartment size of 8000 m2 for the Class 5 office spaces and 5000 m2 for the Class 6 retail spaces. Whilst the current floor plates at the retail and office levels are less than this, the total floor area and volume will need to be taken into consideration where it is posed to interconnect some of the floors (also see Egress below).

- The building is also exposed to fire source features which includes the eastern and western boundaries. External walls within 3 metres of the boundary (or 6m to adjacent boundary across a street) are required to be fire resisting which requires that any openings in the walls are also required to be fire resistant (need to determine the width of Charles Street)

- The eastern elevation currently shows openings to the office tower which are not permitted unless they are protected using window drenchers. If drenchers are used then they are only permitted to be used for 1/3 of the area of the external wall of the storey or, a **Performance Solution** sought to allow further protected openings to this elevation.

Egress

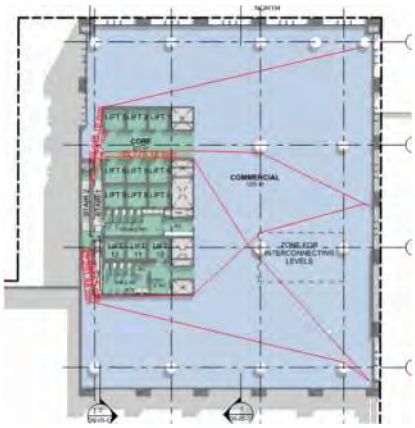
We have made the following observations with regards to egress from the proposed building:

- As a Class 5 and 6 building which is over 25 m in effective height, the BCA requires each floor to be provided with egress that allows:

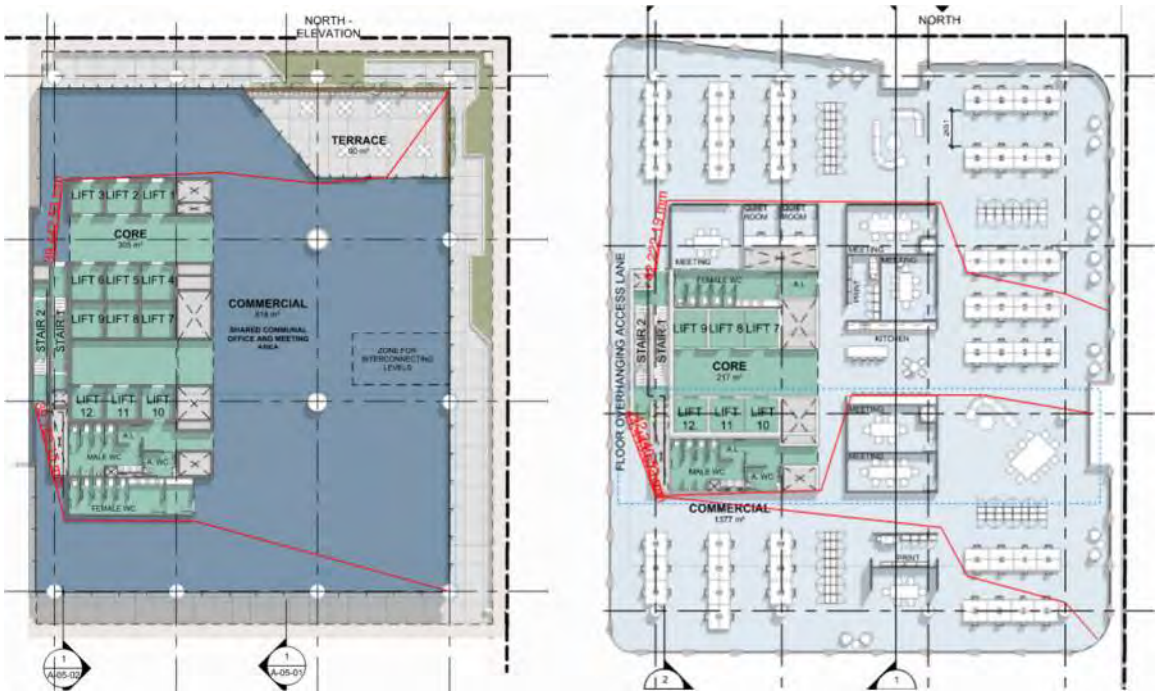
- Minimum of 40 m to one of the 2 exits available
- Less than 60 m apart
- Exit door width to be provided for the total occupants in the building (e.g. 2 m exit width allows for 200 persons)
- The fire exits to be fire isolated with stair pressurisation
- Scissor stairs to be adequately signed and identified
- Re-entry from fire stairs back into the floor plate so that occupants can transfer to the other stairwell

- Each of the existing floor plates currently has access to 3 exits via the existing stairs on levels Basement to 4. The new scissor stair to be constructed as part of the new works will provide 2 more exit points from each storey.

- On the commercial levels there looks to be extended egress on the south east corner which will need to be addressed either via a **Performance Solution** or, extended the fire corridor.



- It should also be noted that consideration needs to be made with regards to the future fitout of the tenancy in that the construction of partition walls and lobby areas may mean that the egress paths are extended to beyond 40m (see below plan). Its suggested this is discussed with a BCA Consultant and Fire Engineer as part of the design development process (including the egress paths more than 60 m apart)



- The floor plate with 2 exit stairs (assumed min 1m wide) can allow for 200 persons per floor subject to sanitary facilities (refer F below). The BCA allows an office floor to have 10 m2/person and the retail areas at 5 m2/ person as a guide. We would rely on the client advising of the occupancy rate so that adequate facilities can be provided.

- As discussed in Part C the plans note that there is to be an interconnection of some of the floor plates. On the office levels it is expected that these will be non-required exits (not used for egress) and as such a maximum of 2 levels can be interconnected otherwise a Performance Solution will be required.

- We note on the lower retail floors that there will be up to 4 storeys interconnected. A Performance Solution will be required to allow for this with due consideration to the area and volumes created by the voids and the smoke hazard management system proposed for the building.

Fire fighting equipment

The building will require active and passive and fire protection throughout which will need to meet the minimum requirements of the BCA.

The building being greater than 25m also requires due consideration of additional fire safety measures such as emergency lifts, stair pressurisation, smoke hazard management, fire control centre and provision of additional fire fighting water supply (refer attachment).

It is expected that once the floor plans have been settled that the design team engage with the SAMFS to discuss fire fighting operations and allowances for fire fighting equipment in the building (sprinklers, tanks, pumps, smoke exhaust, hydrants, brigade access, performance solutions, scissor stairs, etc).

Health and Amenity

The new building will be required to be provided with sanitary facilities for each floor according to the maximum occupants expected.

- The commercial floors show new sanitary facilities to the core which will comply.

- The retail floor will interconnect with the existing spaces and largely rely on the existing sanitary facilities provided in the building. However, as part of the compliance assessment, a review of the current provision will need to be undertaken to ensure that the facilities provided allow for the additional and new floor occupants to ensure that adequate facilities are provided (e.g. on the food court level and commercial lobby floor which has a new café)

- The building will be required to meet the BCA for the provision of light and ventilation to all spaces according to use and number of occupants.

- There are no BCA acoustic requirements for the Class 5 and 6 building.

- The external façade of the building will need to be deemed ‘weatherproof’ using the Performance Provisions of the BCA. We suggest that a consultant is engaged by the design team to review the types of external budding fabric to ensure that the detailing meets the BCA.

Energy Efficiency

The new work would be expected to comply with the relevant provisions of Part J of the NCC. This will affect the external building fabric (including the glazing) depending on what areas are deemed conditioned.

The design and installation of new services such as lighting and air conditioning will need to comply with the relevant provisions of Part J.

- Our recommendation would be to engage with an ESD consultant once the new plans are more finalised to understand that the selected materials achieve compliance for energy efficiency; and,

- As part of the ESD review the interaction with the existing building also needs to be taken into consideration with any opportunities to provide recommendation to improve the building's thermal performance as deemed necessary relevant to the scope of works.

SUMMARY

We hope this assessment provides valuable compliance input into the Planning Application process and please do not hesitate to contact me should you wish to discuss the design further.
Regards,

BRETT FENNELL
MANAGING DIRECTOR
ACCREDITED PROFESSIONAL

Appendix A – BCA requirements in Buildings over 25m