

Your ref  
Our ref 260176  
File ref

# ARUP

Tina Zheng  
Root Partnerships  
(by email)

Level 10 201 Kent Street  
PO Box 76 Millers Point  
Sydney 2000  
Australia

t +61 2 9320 9320  
d +61 2 9320 9503  
f +61 2 9320 9321

andrew.pettit@arup.com  
www.arup.com

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## Campbelltown Hospital – Stage 2 Redevelopment Planning Fire Engineering

This letter considers the fire safety design of 'Building 1' as part of the Campbelltown Hospital Stage 2 Redevelopment Planning Project.

The proposed redevelopment includes the construction of a new 13 storey clinical building (Building 1), which will have an effective height in excess of 25m. The new Building 1 is located to the south of the existing Buildings A and B. The development includes construction of a new hospital spine and connections to the existing hospital buildings. A site plan for the redevelopment is shown in the figure below.



Figure 1: Site plan for Stage 2 redevelopment plan of Campbelltown Hospital

The fire safety design of the new development will generally satisfy the Performance Requirements of the Building Code of Australia (BCA) by complying with the Deemed-to-Satisfy (DtS) Provisions. However, there are several aspects of the design known at this

point <sup>[1]</sup> that are to be developed using performance based fire engineering to achieve compliance with the Performance Requirements of the BCA.

The aspects of the design for Building 1 that are anticipated to require support via a fire engineering Performance Solution are:

- Oversized fire and smoke compartment areas

The building will be separated into a number of fire compartments and smoke compartments. The maximum areas of individual fire and smoke compartments are specified within the DtS Provisions of the BCA, but are likely to be exceeded to enable the compartmentation to align with the separation between departments. The proposal is to justify the increased fire and smoke compartment areas by implementing a quantified risk assessment as part of a fire engineering Performance Solution.

- Extended travel distances

It is anticipated that there will be various cases of extended travel distances to an exit and between alternative exits throughout the hospital. A quantified fire engineering Performance Solution will be developed to demonstrate that the time taken for occupants to egress is equal or less than what could be achieved in a design that is compliant with the DtS Provisions of the BCA.

- Horizontal exits into compartments with no fire isolated stairway

Occupants egressing via horizontal exits between compartments will evacuate into a compartment that does not contain a fire isolated stairway. This is a non-compliance with the DtS Provisions of the BCA but is considered reasonable on the basis that occupants can keep evacuating into another non-fire affected compartment which does contain a required fire isolated stairway. This is supported by the high level of fire resisting construction that will be provided in the hospital to protect occupants when they've used a horizontal exit.

- Omission of fire hose reel coverage

There is a small percentage of rooms that will be fire separated from the remainder of the building and may not be provided with complaint fire hose reel coverage. The proposal is to assess these rooms without hose reel coverage via a fire engineering Performance Solution, to demonstrate that there are adequate provisions to suppress a fire with sprinkler protection and portable fire extinguishers.

Additional non-compliances may arise as the design develops, although the project team considers it unlikely that these would impact on the Development Application aspects of the building.

## Conclusion

Based on our preliminary review of the architectural drawings issued by Billard Leece Partnership (dated 18 May 2018) it is considered that Performance Solutions addressing the non-compliances described above will be feasible and compliance with the Performance Requirements of the BCA can be demonstrated.

It is therefore considered that there are no fire safety issues that would adversely impact the project design as it relates to the Development Application submission.

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<sup>1</sup> Based on the Concept BCA Report issued by BM+G (dated 23 February 2018)

Yours sincerely

A handwritten signature in dark ink, appearing to read 'A Pettit', with a stylized flourish at the end.

Andrew Pettit  
Senior Engineer