

Job No. SY120256

15 October 2012

Gerard Graham Lend Lease 30 The Bond, 30 Hickson Road Millers Point NSW 2000

Dear Gerard

## Barangaroo South R8 and R9 – Preliminary fire safety engineering review

This letter supports Project Application (MP11\_0002) submitted to the Minister for Planning pursuant to Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Application seeks approval for the construction and use of two residential flat buildings (known as Buildings R8 and R9) comprising 161 apartments, ground floor retail, allocation of car parking spaces from the Bulk Excavation and Basement Car Parking Project Application, and the construction of the surrounding ancillary temporary public domain and landscaping.

Defire has undertaken a preliminary fire safety engineering review to determine whether the design can be demonstrated to achieve compliance with the performance requirements of the National Construction Code 2012 Volume One – Building Code of Australia (BCA). The review was based on the drawings listed in Appendix A.

The alternative solutions identified to date are listed in Table 1.

Item	Description of alternative solution	DTS provision	Performance requirement
1.	It is proposed to consider buildings R8 and R9 as separate buildings to the basement below and any other buildings connected to that basement.	Clause C2.7	CP2
2.	<ul> <li>Reduction of fire rating in ground floor retail to 90 minutes in lieu of 3 hours. This includes the following:</li> <li>Fire separation between the retail and residential portions on the ground floor.</li> <li>Fire separation between the retail ground floor and the residential storeys above.</li> </ul>	Clauses C1.1, C2.7, C2.8 and C2.9 and specification C1.1	CP1 and CP2
3.	No fire rating to the walls of the fire isolated stairs that projects past the external wall of the sole occupancy units and are exposed to the sole occupancy units. It is proposed to provide unprotected glazing.	Clause C3.8	CP2 and DP5
4.	Some portions of the residential buildings are only provided with access to only one exit.	Clause D1.2	DP4
5.	The fire isolated stairs discharge into the residential lobbies on the ground floor in lieu of road or open space.	Clause D1.7	DP5





Item	Description of alternative solution	DTS provision	Performance requirement
6.	The hydrant booster assembly is not within sight of the main building entry.	Clause E1.3 and AS 2419.1-2005	EP1.3
	The fire rated protection around the booster assembly does not extend 2m on each side of the fire hydrant outlet and 3m above the upper hose connections in accordance with AS 2419.1-2005.		
7.	Sprinklers are not proposed to the residential balconies.	Clause E1.5	EP1.4
8.	Zone smoke control is not proposed within the ground floor retail areas.	Table E2.2a	EP2.2
9.	The stair pressurisation relief air shaft for the R8 northern stair is proposed to utilise motorised fire / smoke dampers in lieu of subducts.	Table E2.2a and AS/NZS 1668.1-1998	EP2.2
10.	Some portions of the residential buildings may not be provided with an emergency lift.	Clause E3.4	EP3.2
11.	Sound systems and intercom systems for emergency purposes are not proposed to be provided to the buildings.	Clause E4.9	EP4.3

## Table 1Preliminary list of alternative solutions

The areas of the design which impact upon fire brigade operations will be discussed with Fire & Rescue NSW. This includes vehicular access, location of fire control centres and fire hydrant booster locations.

It is Defire's professional opinion that it is possible to develop alternative solutions for the issues identified to demonstrate compliance with the relevant performance requirements of the BCA without major changes to the proposed design.

The details of the proposed alternative solutions are subject to the outcome of the fire engineering brief and analysis which will be carried out in accordance with the International Fire Engineering Guidelines. The alternative solutions for the building will be developed as part of the ongoing design and development process and documented in a format suitable for submission to the relevant approval authorities. It is noted that additional alternative solutions may be identified during the ongoing design development process in consultation with the design team.

Please contact Victor Tung of Defire on 02 9211 4333 if you have any questions.

Yours sincerely

Victor Tung Accredited fire safety engineer Defire

Innovative fire safety



## Appendix A. Drawings

Drawing title	Dwg no	Date	Drawn
BR8 Ground floor plan	BR8ASKPA100 rev 09	12/10/12	FJMT
BR8 Level 1 floor plan	BR8ASKPA101 rev 08	12/10/12	FJMT
BR8 Level 2 floor plan	BR8ASKPA102 rev 06	12/10/12	FJMT
BR8 Level 3 floor plan	BR8ASKPA103 rev 06	12/10/12	FJMT
BR8 Level 4 floor plan	BR8ASKPA104 rev 06	12/10/12	FJMT
BR8 Level 5 floor plan	BR8ASKPA105 rev 06	12/10/12	FJMT
BR8 Level 6 floor plan	BR8ASKPA106 rev 07	12/10/12	FJMT
BR8 Level 7 floor plan	BR8ASKPA107 rev 06	12/10/12	FJMT
BR8 Level 8 floor plan	BR8ASKPA108 rev 06	12/10/12	FJMT
BR8 Level 9 floor plan	BR8ASKPA109 rev 04	12/10/12	FJMT
BR8 Level 10 floor plan	BR8ASKPA110 rev 04	12/10/12	FJMT
BR8 Roof plan	BR8ASKPA111 rev 04	12/10/12	FJMT
BR8 East elevation	BR8ASKPA120 rev 03	12/10/12	FJMT
BR8 West elevation	BR8ASKPA121 rev 03	12/10/12	FJMT
BR8 North south elevations	BR8ASKPA122 rev 03	12/10/12	FJMT
BR9 Ground floor plan	BR9ASKPA100 rev 08	09/10/12	PTW Architects
BR9 Level 1 floor plan	BR9ASKPA101 rev 08	09/10/12	PTW Architects
BR9 Level 2 floor plan	BR9ASKPA102 rev 08	09/10/12	PTW Architects
BR9 Level 3 floor plan	BR9ASKPA103 rev 08	09/10/12	PTW Architects
BR9 Level 4 floor plan	BR9ASKPA104 rev 08	09/10/12	PTW Architects
BR9 Level 5 floor plan	BR9ASKPA105 rev 08	09/10/12	PTW Architects
BR9 Level 6 floor plan	BR9ASKPA106 rev 08	09/10/12	PTW Architects
BR9 Level 7 floor plan	BR9ASKPA107 rev 08	09/10/12	PTW Architects
BR9 Level 8 floor plan	BR9ASKPA108 rev 08	09/10/12	PTW Architects
BR9 Roof plan	BR9ASKPA109 rev 08	09/10/12	PTW Architects
BR9 North elevation	BR9ASKPA120 rev 08	09/10/12	PTW Architects
BR9 East elevation	BR9ASKPA121 rev 08	09/10/12	PTW Architects
BR9 South elevation	BR9ASKPA122 rev 08	09/10/12	PTW Architects
BR9 West elevation	BR9ASKPA123 rev 08	09/10/12	PTW Architects