Job No. SY120256

22 March 2013

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.	Reduction of fire rating in ground floor retail to 90 minutes in lieu of 3 hours. This includes the following: • Fire separation between the retail and residential portions on the ground floor. • Fire separation between the retail ground floor and the residential storeys above.	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 of building R9 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.	The following areas are provided with access to only one exit, which will not be pressurised: • Building R8 – modules south of gridline 4 • Building R9	Clause D1.2 and table E2.2a	DP4 and EP2.2

Item	Description of alternative solution	DTS provision	Performance requirement
5.	The distance between alternative exits in the northern module of building R8 are reduced to 1.9m, in lieu of 9m apart.	Clause D1.5	DP4 and DP5
6.	The fire isolated stairs discharge into the residential lobbies on the ground floor in lieu of road or open space.	Clause D1.7	DP5
7.	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.	Clause E1.3 and AS 2419.1-2005	EP1.3
8.	Sprinklers are not proposed to the residential balconies in the following areas: • Building R8 – modules south of gridline 4 • Building R9	Clause E1.5	EP1.4
9.	Zone smoke control is not proposed within the ground floor retail areas.	Table E2.2a	EP2.2
10.	The stair pressurisation relief air shafts for the northern fire stairs in building R8 are proposed to utilise motorised fire / smoke dampers in lieu of subducts.	Table E2.2a and AS/NZS 1668.1-1998	EP2.2
11.	The following areas are not provided with an emergency lift: • Building R8 – modules south of gridline 4 • Building R9	Clause E3.4	EP3.2
12.	The sound systems and intercom systems for emergency purposes do not comply with the following: • The speech intelligibility (STI) requirement of ≥0.5 is not achieved in the bathrooms and balconies of the SOUs and the plant rooms. • Warden intercom points and manual call points are not proposed to be provided.	Clause E4.9	EP4.3

Table 1 Preliminary 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	BR8AD3000000 rev 10	21/03/13	FJMT
BR8 Level 1 floor plan	BR8AD3010000 rev 11	21/03/13	FJMT
BR8 Level 2 floor plan	BR8AD3020000 rev 06	21/03/13	FJMT
BR8 Level 3 floor plan	BR8AD3030000 rev 05	21/03/13	FJMT
BR8 Level 4 floor plan	BR8AD3040000 rev 05	21/03/13	FJMT
BR8 Level 5 floor plan	BR8AD3050000 rev 05	21/03/13	FJMT
BR8 Level 6 floor plan	BR8AD3060000 rev 06	21/03/13	FJMT
BR8 Level 7 floor plan	BR8AD3070000 rev 06	21/03/13	FJMT
BR8 Level 8 floor plan	BR8AD3080000 rev 05	21/03/13	FJMT
BR8 Level 9 floor plan	BR8AD3090000 rev 03	21/03/13	FJMT
BR8 Level 10 floor plan	BR8AD3100000 rev 03	21/03/13	FJMT
BR8 Roof plan	BR8AD3110000 rev 03	21/03/13	FJMT
BR8 East elevation	BR8AD4500001 rev 03	21/03/13	FJMT
BR8 West elevation	BR8AD4500002 rev 03	21/03/13	FJMT
BR8 North south elevations	BR8AD4500003 rev 03	21/03/13	FJMT
BR9 Ground floor plan	BR9AD3000000 rev 12	21/03/13	PTW Architects
BR9 Level 1 floor plan	BR9AD3010000 rev 08	21/03/13	PTW Architects
BR9 Level 2 floor plan	BR9AD3020000 rev 08	21/03/13	PTW Architects
BR9 Level 3 floor plan	BR9AD3030000 rev 04	21/03/13	PTW Architects
BR9 Level 4 floor plan	BR9AD3040000 rev 04	21/03/13	PTW Architects
BR9 Level 5 floor plan	BR9AD3050000 rev 04	21/03/13	PTW Architects
BR9 Level 6 floor plan	BR9AD3060000 rev 04	21/03/13	PTW Architects
BR9 Level 7 floor plan	BR9AD3070000 rev 06	21/03/13	PTW Architects
BR9 Level 8 floor plan	BR9AD3080000 rev 06	21/03/13	PTW Architects
BR9 Roof plan	BR9AD3090000 rev 06	21/03/13	PTW Architects
BR9 North elevation	BR9AD4500001 rev 05	21/03/13	PTW Architects
BR9 East elevation	BR9AD4500002 rev 05	21/03/13	PTW Architects
BR9 South elevation	BR9AD4500003 rev 05	21/03/13	PTW Architects
BR9 West elevation	BR9AD4500004 rev 05	21/03/13	PTW Architects