

Job no SY160104

08/12/2016

Phil Kiehne
Lend Lease
Level 5, 405-411 Sussex Street
Sydney, NSW 2000

Dear Phil

The Darling Exchange North Plot of Darling Square – Preliminary fire safety engineering review

This letter provides a response to submissions and assessment of the proposed amended development in relation to the State Significant Development (SSD) Development Application (DA) for the development of the North Plot and Square in Darling Square (SSD 7021).

The design of the proposed Darling Exchange, North Plot of Darling Square development will incorporate performance solutions complying with the performance requirements of National Construction Code Series Volume One – Building Code of Australia (BCA)¹. Defire has undertaken a preliminary fire safety engineering review of the proposed design for the development application submission at the request of Lend Lease. The review was based on the drawings and information listed in Attachment 1.

This letter should be read in conjunction with the BCA assessment prepared by McKenzie Group Consulting to support the development of the North Plot and Square (SSD 7021).

The intent of the review was to determine whether we believe the design can be demonstrated to achieve compliance with the performance requirements of the BCA.

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

Item	Description of performance solution	DTS provision	Performance requirement
1.	The fire rating of the building elements are to comply with the DTS provisions of the BCA, except the maximum fire resistance level (FRL) criteria for: - any element within the class 6 portions may be 2 hours instead of 3 hours - the internal steel columns hung from the level 1 slab that support the mezzanine floor may be further reduced to 90 minutes instead of 3 hours.	Clauses C1.1 and C2.9 and specification C1.1	CP1 and CP2
2.	Openings within the external wall of the building located within 3m of a side or rear boundary along the north elevation are proposed to be protected based on methods determined on a performance basis.	Clause C3.2	CP2

¹ National Construction Code 2016, Volume One – Building Code of Australia, Australian Building Codes Board, Australia.



Item	Description of performance solution	DTS provision	Performance requirement
3.	The external walls of the building are to incorporate a softwood timber attachment offset approximately 600mm from the external walls / balcony projections of the building. The timber attachment does not fully comply with clause C2.4 of specification C1.1 of the BCA as: - the material does not qualify for the exemption permitted by clause C1.10 nor does it have compliant fire hazard properties as prescribed in specification C1.10 - it is located both near and directly above required exits which has the potential to make the respective exits unusable in a fire - it may constitute an undue risk of fire spread via the facade of the building.	Clause 2.4 of specification C1.1	CP2 and CP4
4.	Travel distances are proposed to be extended to: 50m to an exit instead of 40m on mezzanine retail F&B 50m to an exit instead of 40m on level 5 bar/restaurant.	Clause D1.4	DP4 and EP2.2
5.	The maximum population on level 5 is proposed to be increased to 400 persons which exceeds the maximum permissible limit of 380 persons for the 3.5m aggregate exit width serving the storey.	Clause D1.6	DP4, DP6 and EP2.2
6.	The fire hydrant booster assembly is not within sight of the main entry and is not protected with fire rated construction 2m horizontally and 3m vertically from the booster inlets.	Clause E1.3 and clause 7.3(c) of AS 2419.1-2005	EP1.3
7.	The distance between the fire hydrant booster assembly and the hardstand area for fire brigade pumping appliances will be approximately 18m instead of 8m.	Clause E1.3 and clause 7.3(b) of AS 2419.1-2005	EP1.3

Table 1 Preliminary list of performance solutions

It is Defire's professional opinion that it is possible to develop performance 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 performance 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 (IFEG)².

The performance 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.

Please contact me on 02 9211 4333 if you have any questions.

Yours sincerely

Jason Jeffress
Managing director

Defire – Innovative fire safety

² International Fire Engineering Guidelines – Edition 2005, Australian Building Codes Board, Australia.



Attachment 1 Drawings and information

Drawing title	Dwg no	Date	Drawn
Drawing list and context plan	N_AD_PS01	21/11/2016	Kengo Kuma & Associates
Site plan	N_AD_PS02	21/11/2016	Kengo Kuma & Associates
Ground floor	N_AD_P01	21/11/2016	Kengo Kuma & Associates
Mezzanine	N_AD_P02	21/11/2016	Kengo Kuma & Associates
First floor	N_AD_P03	21/11/2016	Kengo Kuma & Associates
Second floor	N_AD_P04	21/11/2016	Kengo Kuma & Associates
Third floor	N_AD_P05	21/11/2016	Kengo Kuma & Associates
Fourth floor	N_AD_P06	21/11/2016	Kengo Kuma & Associates
Fifth floor	N_AD_P07	21/11/2016	Kengo Kuma & Associates
Roof	N_AD_P08	21/11/2016	Kengo Kuma & Associates
Canopy	N_AD_P09	21/11/2016	Kengo Kuma & Associates
Rooftop landscape	N_AD_P10	21/11/2016	Kengo Kuma & Associates
South elevation	N_AD_E01	21/11/2016	Kengo Kuma & Associates
North elevation	N_AD_E02	21/11/2016	Kengo Kuma & Associates
East elevation	N_AD_E03	21/11/2016	Kengo Kuma & Associates
West elevation	N_AD_E04	21/11/2016	Kengo Kuma & Associates
Elevation signage	N_AD_E05	21/11/2016	Kengo Kuma & Associates
Elevation canopy	N_AD_E06	21/11/2016	Kengo Kuma & Associates
Section North/South	N_AD_S01	21/11/2016	Kengo Kuma & Associates
Section East/West	N_AD_S02	21/11/2016	Kengo Kuma & Associates
Section typical detail	N_AS_DS01	21/11/2016	Kengo Kuma & Associates
Typical ground floor façade types	N_AS_DS02	21/11/2016	Kengo Kuma & Associates

Other information	Ref no	Date	Prepared by
BCA Assessment – Response to Submissions (RTS)	069092-07BCA	Not provided	McKenzie Group Consulting