



15237
22 March 2017

Carolyn McNally
Secretary
Department of Planning and Environment
320 Pitt Street
SYDNEY NSW 2000

Attention: Brendon Roberts (Senior Planning Officer)

Dear Brendon

**RESPONSE TO DEPARTMENT QUERIES
NORTH PLOT AND SQUARE (SSD 7021)**

This letter, prepared by JBA on behalf of the proponent, sets out the responses to the queries raised in the Department of Planning and Environments (the Department) correspondence dated 3 March 2017.

The queries raised in your correspondence are addressed below and should be read in conjunction with the following:

- Shortlisted stair options analysed prepared by KKA and Lendlease Design (**Attachment A**);
- DDA confirmation letter prepared by MGAC (**Attachment B**);
- Floor plate reduction compliance plan prepared by Lendlease Design (**Attachment C**);
- Updated Signage Zone Plan prepared by KKA (**Attachment D**); and
- Updated 3D envelope compliance images (**Attachment E**).

Discharge of Condition A6A of SSD 5878

The Department has requested that the requirements of condition A6A on development consent SSD 5878 be satisfied. Additional information satisfying the requirements of Condition A6A was provided to the Department on 6 March 2017.

Darling Exchange encroachment into The Boulevard

The Department has requested the following be provided in regard to the stair encroachment into the Boulevard:

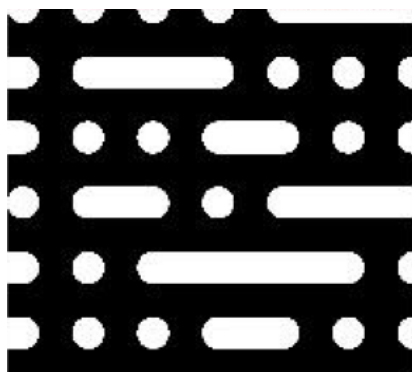
- options for increasing the permeability/transparency of the step risers to increase views through the structure; and
- further justification in response to sub-point (d) of condition B4A.

The project architects, Kengo Kuma and Associates (KKA), have undertaken further analysis of the design of the stair in consultation with Lendlease and the project team. In summary, there are a number of factors which need to be balanced in increasing the permeability/transparency of the step risers. These factors include:

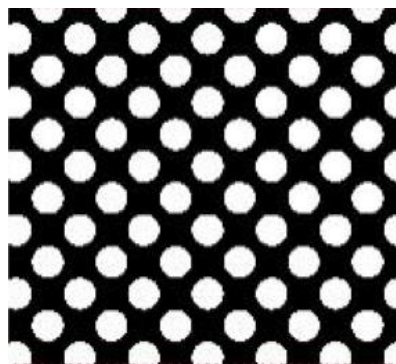
- Planning and design criteria – achieving the requirements of Condition B4A.
- Structural criteria – the stair is structurally stable as a civic / public stair.
- Disability Discrimination Act criteria – the stair appears opaque to the user.

Given the request of the Department and in the context of these factors, KKA tested a wide range of options. Each of these options was evaluated against the above criteria and a shortlist of options was developed. These shortlist options included the design lodged with the Response to Submissions (RtS) package and two separate options as displayed in **Figure 1** below and at **Attachment A**. The shortlisted options were considered by the project team to best meet the requirements listed above following initial testing.

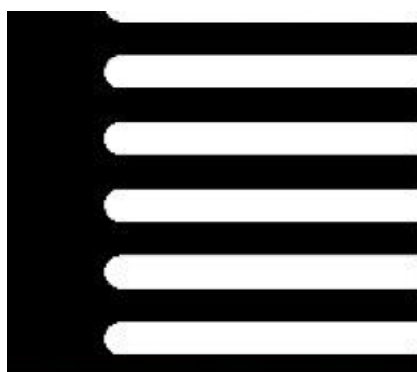
Provided at **Attachment A** are various illustrations of the options when viewed from different angles, including a view from the user ascending the stair, a view from directly behind the stair risers and a montage viewed from the centre of the Boulevard.



Option 1 – 28% perforated / circle and slot pattern lodged with RtS



Option 2 – 39% perforated / circular staggered pattern (preferred option)



Option 3 – 38% perforated / slotted stacked pattern

Figure 1 – Three options explored

KKA and Lendlease examined these three shortlisted options, evaluating how each measured against the identified factors. This assessment was informed by advice from the DDA consultant (MGAC – refer to **Attachment B**). MGAC has confirmed that all options tested would be reasonable solutions to allow a user with a vision impairment to identify the next few treads of the stairway when ascending. In testing, MGAC confirmed to the project team that no further perforation would be suitable as issues may begin to arise for a user with a vision impairment.

A structural review was also completed for each option, with all options being appropriate from a structural perspective for a civic / public stair.

Whilst each option is considered by the project team to satisfy each of the criteria, Option 2 is nominated as the preferred option given it provides the highest percentage of openness (39%). Furthermore, this option provides a simpler approach to the riser design, creating a subtle and uniform pattern which permits oblique sightlines. The consistency of the perforation across the face of the riser has increased the perceived transparency and the fineness of the perforations, creating a sense of translucence in material rather than the potential distraction of a defined and distinct pattern.

Overall, this option was deemed to be the best by the project team when evaluated against all three factors and the design intent of the building.

In addition to exploring options for the stair risers, the Department has requested further justification on sub-point (d) of condition B4A of development consent SSD 5878. Sub-point (d) states:

Minor encroachments of the North Plot into the 'uninterrupted minimum 19 metre building separation' may be considered where it has been demonstrated that:

...

d) any encroachments are designed to be lightweight and visually permeable

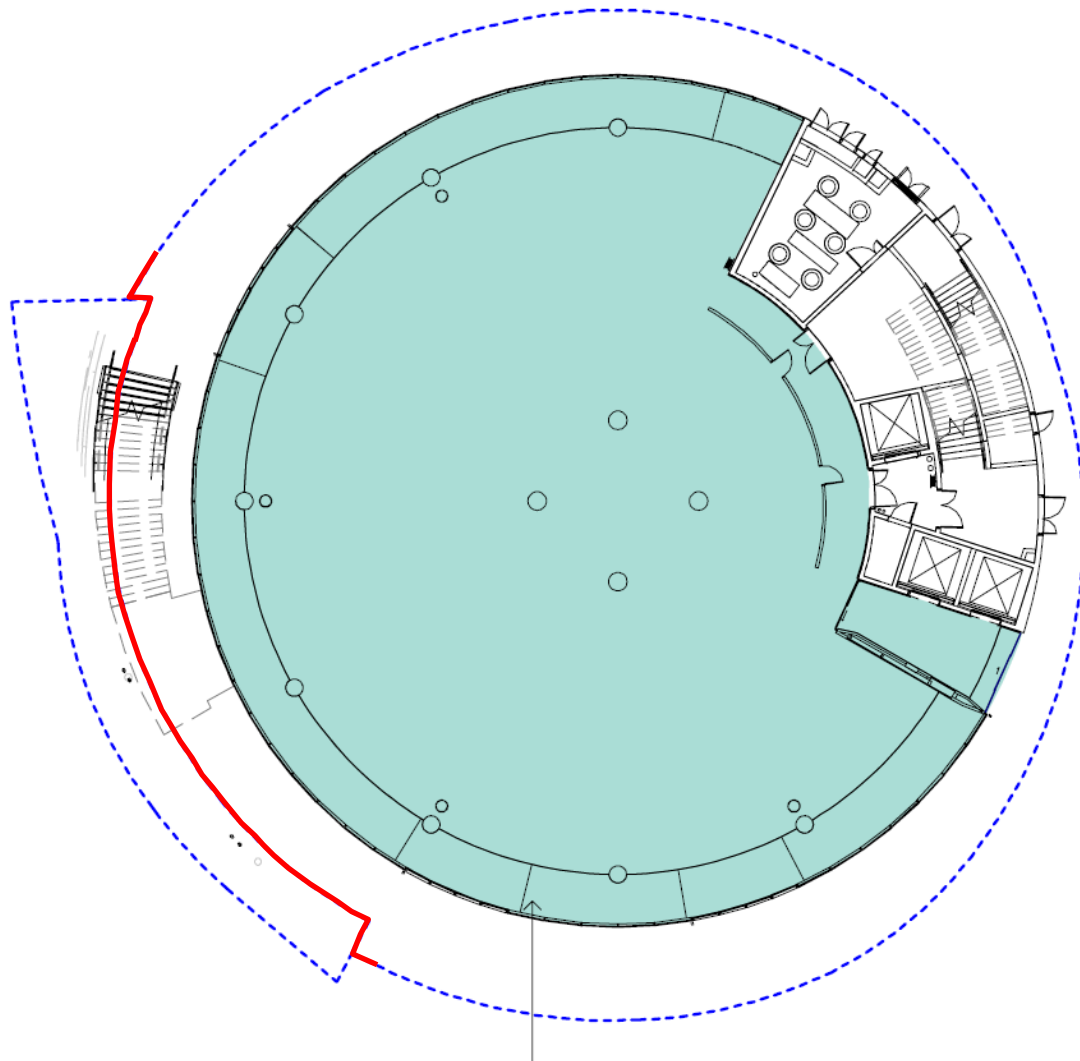
...

To fully understand the encroachment of the stair and the achievement of a lightweight and visually permeable outcome, the extent of the encroachment must be understood. **Figure 2** provides a floor plan and several different views illustrating the extent of the encroachment. It is evident from these visualisations that the encroachment is minimal and only occurs for a portion of the stair.

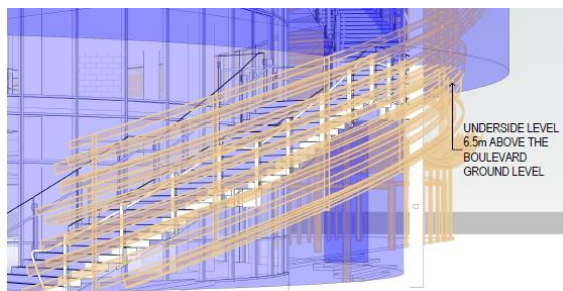
Following on from the option testing, the following can be confirmed of the preferred option:

- The stair risers have a transparency of 39%, with the perforated pattern containing 8mm circular openings every 8mm. This provides an open and visually permeable outcome, with varying degrees of openness as pedestrians travel through the Boulevard.
- The level of visual permeability of the stair riser is maximised in the context of DDA requirements for users with a visual impairment. The stair is visually permeable when pedestrians travel down the Boulevard, but is more opaque for users ascending the stair.
- The stair is currently designed to structurally contain only two thin lightweight columns, meaning there are limited vertical obstructions introduced into the Boulevard, in turn increasing the visual permeability of the structure. Any further reduction in the structural support of the stair stringers would require additional columns within the Boulevard, resulting in a potentially heavier and more obstructed encroachment.
- The encroachment of the stair into the Boulevard is minimal with only a small portion of the stair entering the Boulevard setback and therefore the Boulevard is largely retained as a visually unencumbered space (refer to views in **Figure 2**).
- Given the perforated treatment will be provided to all stair risers, the provision of the preferred option would result in a more visually permeable outcome beyond the expected Boulevard setback, offering additional oblique views and contributing to the openness of the space.
- The materiality of the stair will be a high quality architecturally exposed structural steel in a recessive grey colour. Steel has been selected as it's material properties allow the designers to meet the structural requirements whilst maintaining the lightest profile possible. A recessive grey colour has been selected to allow for the openings to be more apparent and enable a highly level of visual permeability. The stair balustrade is composed of glass with fine steel supports that further allow visibility.
- The stair does not only perform a functional role, it provides a critical opportunity for the architecture of the building to be celebrated and experienced at the ground level. The stair includes the commencement of the timber wrap, continuing the architectural expression of the building and allowing visibility through the timber members. The stair forms an important part of the overall building language and aesthetic, contributing to the shape of the pivotal building as the marker for Darling Square.

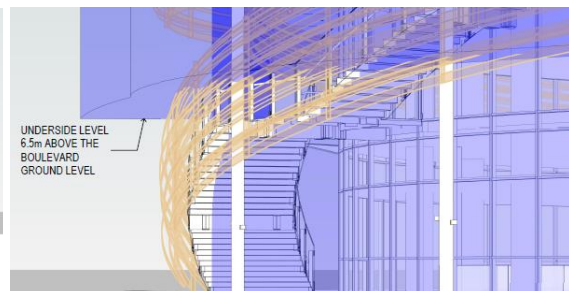
Overall, a series of options have been examined and the design of the stair riser has been rigorously tested to ensure the most visually permeable and light weight design can be achieved. This testing and further analysis has been undertaken in light of the significant benefits which the stair provides to the Darling Exchange building and community uses provided within the building, namely the new library to be managed by the City of Sydney Council. The preferred design offers a balanced outcome which achieves the community and connectivity benefits of the stair, whilst enabling a visually permeable and light weight response despite DDA, structure and design factors.



Plan of stair encroachment at the ground level (red line showing setback requirement)



Stairs viewed from the north (white portion outside setback)



Stairs viewed from the south (white portion outside setback)

Figure 2 – Portion of stair encroachment

Events in The Square

Given the Department's queries on approving events within the Square, the proponent is no longer seeking approval for specific events within the Square. For clarity, events will either be undertaken in accordance with the provisions of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* as exempt development, or a separate application will be made with the relevant consent authority seeking approval for the event.

Other

The Department has raised a number of other matters which are required to be addressed. These are addressed individually in **Table 1**.

Table 1 – Detailed response to other matters raised by the Department

Matter raised	Response
Confirm whether the Darling Exchange building has achieved a 20% reduction per floor compared to the building envelope	It is confirmed that a 20% reduction has been achieved in the detailed Darling Exchange building proposed compared to the envelope approved under the Concept Proposal. Drawings illustrating the achievement of this control are provided at Attachment C .
Confirm the overall reduction in construction time resulting from the longer proposed construction hours compared to Council's standard construction hours	It is clarified that the construction hours sought for approval under this project are consistent with the construction hours included in the development consents for surrounding plots in Darling Square. The construction hours are proposed to be maintained for this project in line with the rest of the precinct to ensure delivery of the Darling Exchange and adjoining public realm with the remainder of the precinct. Furthermore, the construction hours sought are consistent with the City of Sydney Council's standard hours for major development in Central Sydney. For completeness, the construction hours proposed are as follows: - 7:00am to 7:00pm on Mondays to Fridays, inclusive; - 7:00am to 5:00pm on Saturdays; and - No work on Sundays or public holidays. Despite this, it is expected that there will be a general saving of 10-12 weeks if the Darling Exchange and associated public domain works are combined in their delivery.
Confirm the total number of signage zones	The signage plan has been revised to simplify and confirm the final number, location and size of signage zones. The amended signage zone plan is provide at Attachment D .
Confirm whether Drawing ADDS02 'Typical GF Façade Types' is to be approved.	This drawing is proposed to be removed and is not sought to be an approved drawing.
Please provide 3D images showing the Darling Exchange building within Stage 1 Concept Approval building envelope	Updated 3D images illustrating the proposed Darling Exchange building in the parameters of the Stage 1 Concept Proposal envelope are provided at Attachment E . These images demonstrate that the proposed building is largely contained within the envelope, except for minor protrusions for articulation and a portion of the stair. Both of these protrusions are permitted under the Concept Proposal subject to an assessment by the consent authority.

Summary

The above discussion directly addresses all queries raised by the Department in their correspondence. Further design development and testing has occurred on the key design feature of the stair. The importance of this feature is not contained only to design, but also in the functionality of the final building. Significant design thought and testing has progressed a solution for the stair which achieves a balanced outcome and satisfies the objectives for both the Darling Exchange building and Boulevard.

We trust the information and justification provided is sufficient to enable the finalisation of the assessment. Should you have any queries about this matter, please do not hesitate to contact me on 9956 6962 or brendan@jbaurban.com.au.

Yours faithfully



Brendan Hoskins
Principal Planner