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Dear Kristjan

Crown Sydney Hotel Resort Reflectivity Statement for Section 4.55(1A) Application

Introduction

This letter has been prepared by Arup on behalf of Crown Resorts Pty Ltd (Crown) to support an application to modify Development Consent SSDA 6957 in accordance with Section 4.55(1A) of the Environmental Planning and Assessment Act 1979 (EP&A Act). SSDA 6957 relates to the approved Crown Sydney Hotel Resort located at 51a Hickson Road, Barangaroo, NSW.

Development consent SSD 6957 was granted by the Planning Assessment Commission on 28 June 2016. The consent was for a mixed-use building, known as Crown Sydney Hotel Resort, including:

- Site remediation, earthworks, excavation, structural and site preparation works;
- Construction and fit-out of a 71 storey (RL 275 metre) tower including podium;
- Construction of three basement levels;
- A total GFA of 77,500m², comprising:
 - 66 residential apartments;
 - Hotel use (350 hotel keys/rooms) and ancillary guest and visitor facilities;
 - 6,085m² restricted gaming facility GFA; and
 - 6,700m² retail GFA.
- 610 on-site car parking spaces and 188 bicycle parking spaces;
- Public domain works and landscaping; and
- Business and building identification signage and signage zones.

The modification relates to a number of alterations and amendments to the approved scheme. Specifically, this application includes a proposed change to the external façade of the building and this report has been prepared to assess the impact of this proposed change on the reflectivity of the development.

Reflectivity Impact

Arup has reviewed the following drawing series prepared for the Modification Application:

- Architectural plan, section and elevation drawings of Ground Level and above, prepared by Wilkinson Eyre Architects for the Section 96 modification application for the Crown Sydney Hotel Resort – SSDA 6957

The reflectivity study letter titled “Crown Sydney Hotel Resort – Reflectivity Study” (dated 11 March 2015), prepared by Arup to support the original State Significant Development Application (SSDA) for the project, assessed impact of potential reflections off the building facades on pedestrians and road traffic participants. It found that these would not exceed limits of acceptability according to the Hassall methodology adopted in the study, as long as normal external reflectivity of glazing and cladding elements is kept within a limit of 32% (Tower facades) / 20% (Hotel and podium facades).

The modifications to the proposed building as contained in the modification application are within the scope of the original report. Changes to elements of the façade that have a bearing on the effect of reflections are limited predominantly to a change in the panel subdivision of the larger façade sections. We make the following observations:

- The tower facade changes are minor and limited to a redistribution of the vision/spandrel panels to accommodate internal layout changes.
- While individual panel alignments may change, the range of orientation angles within one façade section remains the same. Panels will reflect at approximately the same times into the same directions as for the geometry analysed in the original report.
- Sizes of individual panels have changed, in particular on the triangulated façade. However, panels are elongated, and the longest cross dimensions per panel have remained close to those in the geometry analysed in the original report. Hence, proportions of reflected sun disk visible and reflection duration have remained within the previous report findings.
- Panels on the hotel façade have been slightly widened (2.0m compared to 1.8m). The depth of fins on this façade however has also increased, more than proportionally (250mm compared to 200mm), compared to the required depth identified in the previous report as required to reduce reflections off some individual panels. Hence, even less intense reflections off the hotel façade are expected with the updated design.

On this basis, Arup is of the opinion that the proposed modification will not result in any glare impact of reflections off the façade in addition to that identified within the Reflectivity Study report and requires no further investigation or analysis at this stage of planning and design.

Yours sincerely



Jorg Kramer
Senior Consultant