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# Wind Assessment

Windtech



Date: December 17, 2019

Reference: WA567-34F01(rev1)- Mod 10 WE Letter

NSW Department of Planning, Industry and Environment

320 Pitt Street  
Sydney NSW 2000

Attn: Jim Betts (Secretary)

## **RE: BARANGAROO CONCEPT PLAN MODIFICATION 10**

### **1 Introduction**

This report supports a Section 75W Modification to Concept Plan Approval MP06\_0162 (known as Modification 10) pursuant to clause 3C, Schedule 2 of Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017 (Savings and Transitional Regulation).

### **2 Overview of Proposed Modification**

Concept Plan (Mod 10) seeks to increase the height of the Building Envelope Plan for R4B to RL 235 and increase the GFA of Blocks 4A and 4B by a total of 8,000m<sup>2</sup>.

In order to support the above changes, the following modifications are proposed:

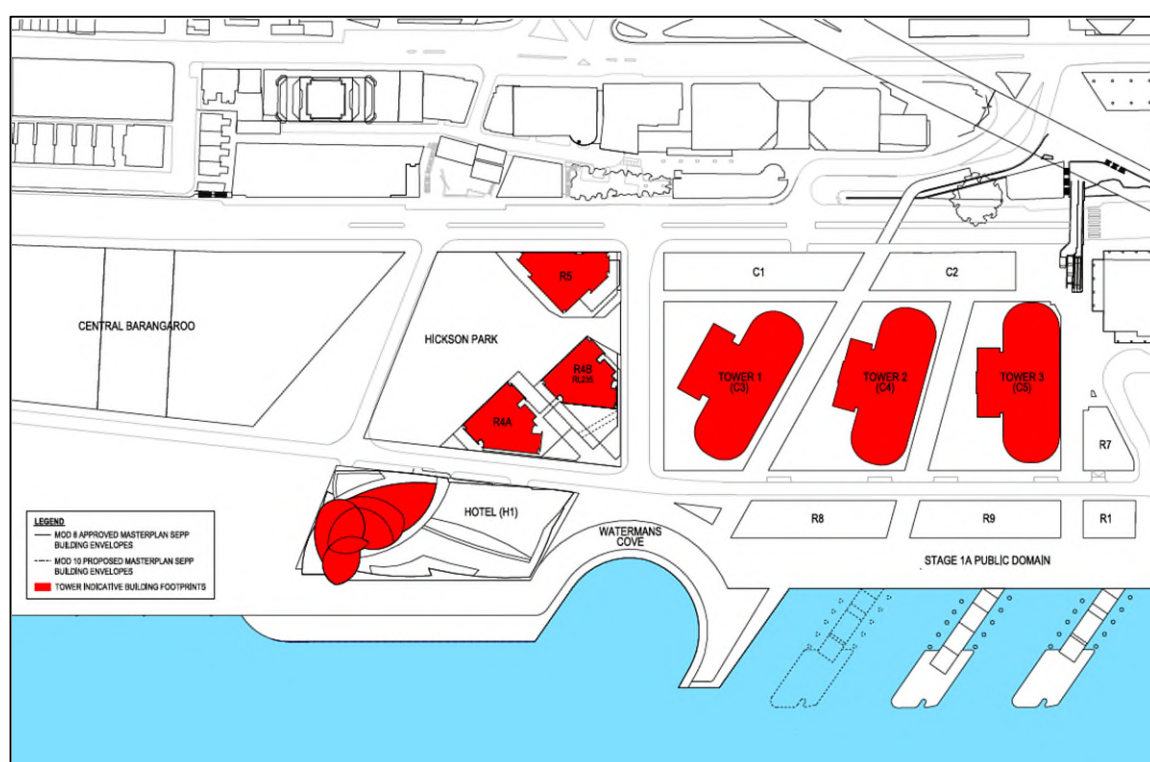
- increase the Concept Plan maximum GFA for Block 4A from 86,979m<sup>2</sup> to 92,629m<sup>2</sup> and the State Significant Precincts SEPP (SSP SEPP) Block 4A maximum GFA from 94,740m<sup>2</sup> to 100,390m<sup>2</sup>;
- increase the Concept Plan maximum GFA for Block 4B from 19,158m<sup>2</sup> to 21,508m<sup>2</sup> and the State Significant Precincts SEPP (SSP SEPP) Block 4B maximum GFA from 20,970m<sup>2</sup> to 23,320m<sup>2</sup>;
- increase the Concept Plan residential maximum GFA of Block 4A from 86,166m<sup>2</sup> to 91,816m<sup>2</sup>;
- increase the Concept Plan residential maximum GFA of Block 4B from 18,287m<sup>2</sup> to 20,637m<sup>2</sup>; and

- increase the Concept Plan maximum height on the Building Envelope Plan for R4B from RL 210 to RL 235, noting Block 4A currently provides for a maximum height of RL 250 under the SSP SEPP.

This Modification also seeks to amend the condition to align the time for delivery of Key Worker Housing at Barangaroo South and off site. This is to reflect that it will be completed prior to the issue of the occupation certificate for Building R5.

The changes described above necessitate modifications to the existing Instrument of Approval, Statement of Commitments and Barangaroo South Built Form Principles and Urban Design Controls for the Concept Plan as well as the relevant provisions of the State Significant Precinct SEPP.

The Mod 10 masterplan SEPP building envelopes and indicative building footprints are illustrated in Figure 1 below.



**Figure 1: Mod 10 SEPP building envelopes and indicative footprints**

### **3 Site Location**

Barangaroo is located on the north western edge of Central Sydney, bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east; and King Street Wharf to the south.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Barangaroo Reserve, Central Barangaroo and Barangaroo South. Concept Plan (Mod 10) relates to Barangaroo South only.

### **4 Impact upon Pedestrian Wind Environment**

Windtech Consultants have previously undertaken the detailed wind tunnel testing for the entire One Sydney Harbour development site as presented in the initial reporting provided in December 2014 (report reference: WA567-06F01(rev1)- WE Report). This report was prepared to assess the wind environment conditions within and around the R4A, R4B and R5 towers and trafficable communal spaces of the One Sydney Harbour development site with reference to wind comfort and safety criteria. Since the time of issuance of the above reports, various updates were undertaken to provide reporting for the expected effect of staging of the development, separate Development Applications, consideration for future developments and minor design changes. The latest updated reports presenting the wind conditions at ground level of the One Sydney Harbour development site were presented in the three latest reports (Report References: WA567-11F01(rev7)- WE Report R4A, WA567-11F02(rev6)- WE Report R4B, WA567-11F03(rev7)- WE Report R5). The areas tested as part of these studies included the surrounding trafficable ground level areas of the entire One Sydney Harbour development site, trafficable podium roof terraces for all three towers, various lower level private balconies and the various tower penthouse terraces.

To summarise the Concept Plan Modification 10, two key modifications are sought outlined as follows:

- Raising the height of the building envelope plan to enable Building R4B to increase in height by 25m to RL 235.
- Additional GFA will be allocated to Block 4B to enable the footprint of Building R5 to become slightly larger.

#### **4.1 Height Increase of R4B to RL 235**

It is expected that the change in height to Building R4B is going to involve an extension of the upper level floor form to the amended height. Based on this change in height of Tower R4B to RL 235, Windtech do not expect that there will be any significant impact upon the wind conditions for the previously tested trafficable areas at the ground level of the One Sydney Harbour development site or within the various trafficable elevated areas of the development.

## **4.2 Building R5 Footprint Enlargement**

It is expected that the modification in form to Building R5 footprint to account for the additional GFA within Block 4B will extend across the typical levels of the building. Based on this change, Windtech do not expect that there will be any significant impact upon the wind conditions for the previously tested trafficable areas at the ground level of the One Sydney Harbour development site or within the various trafficable elevated areas of the development. It should be noted that a further review of this form change will be undertaken at a detailed design stage once a final form change to accommodate this additional GFA has been finalised.

## **4.3 Summary**

Windtech can confirm that the results and recommendations provided within the above referenced Pedestrian Wind Environment reports are still applicable with the sought modifications outlined above for Building R4B and R5. As such, for the proposed modifications within this Mod 10 application, it is expected that the inclusion of the previously recommended wind mitigation measures in the form of strategic landscaping (extensive tree planting e.t.c), retention of currently proposed awnings and localised screening will provide wind conditions suitable for the intended uses of the ground level communal trafficable spaces around the One Sydney Harbour development site.

Regards,



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