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June 18, 2020

Pitt Street Developer North Pty. Ltd.  
Level 19, Suite 19.02  
126 Phillip Street  
Sydney NSW 2000

Wind Impact Assessment Letter  
SMCSWSPS-RWD-OSN-EN-REP-000002  
Revision: A

**Re: Wind Effects due to Modification of the Stage 1 Approved Envelope  
Pitt Street North Over Station Development  
Sydney, NSW**

Dear Senior Development Manager,

RWDI have undertaken a review of the expected local wind environment impacts associated with the proposed modifications to the SSDA DA 17\_8875 approved concept envelope of the Pitt Street North Over Station Development (OSD).

### MOD Design Changes

The Section 4.55 Modification Application is proposed to amend the Concept Approval SSD 8875 for the Pitt Street North OSD. The MOD proposes very minor changes to the approved envelope in the following ways:

- Amend the concept building envelope plans approved on 25 June 2019 by the Minister under application number SSD 8875 to modify the podium envelope:
  - at the Castlereagh St façade to facilitate better built form relationship with the scale of the adjacent Masonic Building;
  - at the Pitt St façade to facilitate better built form relationship with the scale of the adjacent National Building.
- Amend condition A15 to permit the protrusion beyond the building envelope for the purpose of sunshading elements, planted elements, balustrades and planter boxes
- Increase the total GFA across the site to 55,744sqm (including station floorspace)
- Reallocate floorspace between OSD and station uses to maintain consistency with what is being delivered under CSSI
- Make minor amendments to the Design Guidelines in respect to podium heights and tower setbacks. The proposed design which incorporates the additional GFA, the modified building envelope and sun shading devices has been supported through the design excellence process.

## Background

### **CSSI Approval (SSI 15\_7400)**

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest – Chatswood to Sydenham project as a Critical State Significant Infrastructure project (reference SSI 15\_7400) (CSSI Approval). The CSSI Approval granted consent for:

Construction and operation of a metro rail line, approximately 16.5 kilometres long (of which approximately 15.5 kilometres is located in underground rail tunnels) between Chatswood and Sydenham, including the construction of a tunnel under Sydney Harbour, links with the existing rail network, seven metro stations, and associated ancillary infrastructure.

The terms of the CSSI Approval include all works required to construct each of the Sydney Metro stations, including the Pitt Street Station. Except to the extent described in the EIS or Preferred Infrastructure Report (PIR) submitted with the CSSI application, any OSD buildings and uses do not form part of the CSSI Approval and are subject to this SSD DA.

### **Concept SSD DA (SSD\_8875)**

The Minister for Planning granted development consent to the Concept SSD (SSD-8875) on 25 June 2019. Concept Approval was granted for:

- A maximum building envelope, including street wall and setbacks for the over station development;
- A maximum building height of RL 188.74 metres;
- A maximum gross floor area of 50,310m<sup>2</sup> (including station floor space);
- Podium level car parking for a maximum of 50 parking spaces; and
- Conceptual land use for either one of a mixed-use or commercial scheme (not both).

### **SSDA DA 17\_8875 Concept Approval**

For the SSDA DA 17\_8875 Concept, Cermak Peterka Petersen Pty. Ltd (CPP) completed wind tunnel testing to quantify the pedestrian-level wind environment for the concept envelope. The report accompanying the SSDA DA 17\_8875 Concept submission and approval are available here:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=8875](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8875)

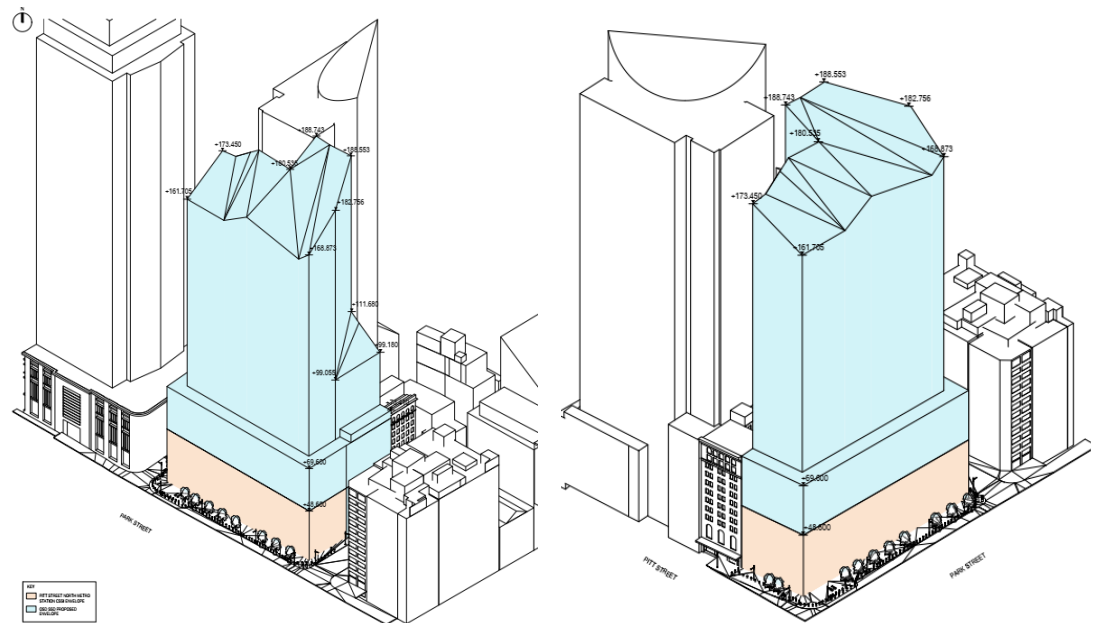
## Discussion

The proposed design changes associated with the Section 4.55 Modification Application noted above are generally smaller scale built form adjustments. These design changes associated with the Section 4.55 Modification Application are shown in Figure 1 (Section 4.55 Modification Application) and Figure 2 (approved Stage 1 Concept Envelope) for reference.

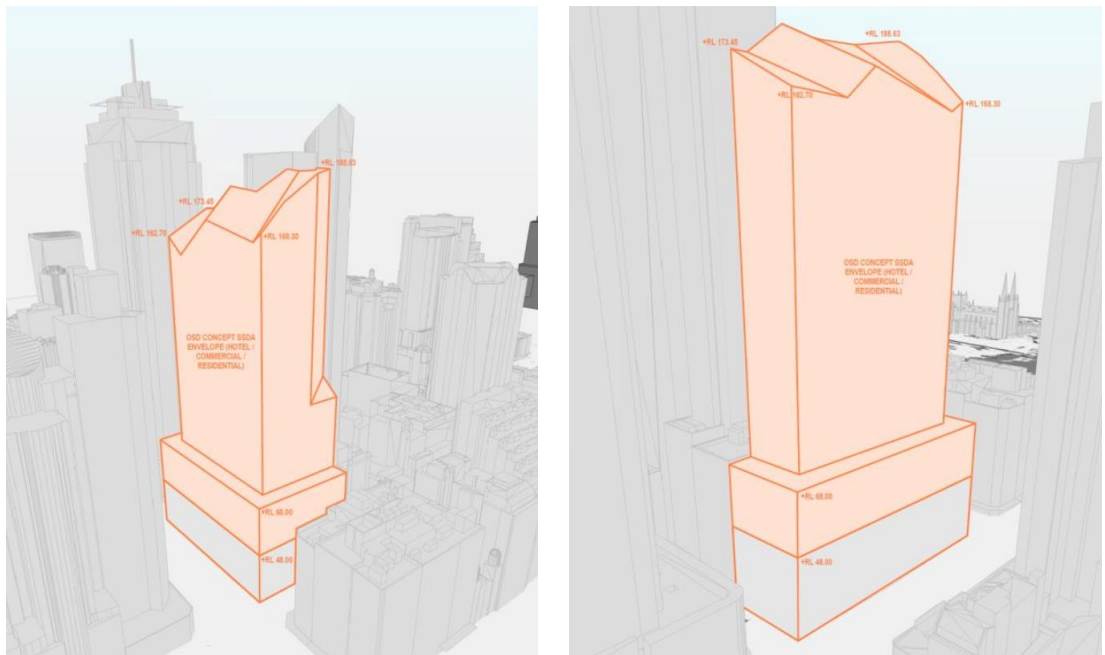
Wind environment conditions associated with a development are governed by a number of key factors including: the local climatic conditions (wind speed and directional probability), local surrounding context which will govern the wind conditions at the site and the design of the subject development. The overall built form massing of a design generally governs larger scale wind flow patterns to the surrounding area. As a design progresses, the finer grain details, such as façade articulation and porosity, awnings, fins landscaping etc. will contribute to more localised effects around the site.

With consideration for the Pitt Street North OSD site, it is noted to be generally shielded in most directions by the surrounding CBD context and that prevailing winds will also be from the north-east (generally in the warmer months), westerlies (during the cooler periods) and southerly winds throughout the year. Given these elements, there is expectation for the westerly winds to be funnelled along Park Street, while the southerlies will funnel up Castlereagh and Pitt Streets. This is noted to be due to the CBD street alignment. There is however some exposure, mainly for the upper levels to the north-easterly winds given the exposure above the lower height existing buildings along Elizabeth Street to the east of the site.

Noting the above elements, the proposed modifications to the building envelope is expected to have minimal impact to the ground level wind environment conditions compared to the approved Stage 1 Concept Envelope. This is largely due to the lower level changes generally located in areas with reduced exposure to the prevailing winds, with the proposed changes not altering this effect. The upper level changes will have no bearing on the ground level wind conditions given its elevation above street level.



**Figure 1: Perspective Views of the proposed Modified Building Envelope**



**Figure 2: Perspective Views of the approved Stage 1 Concept Envelope**



## Conclusion

A review has been undertaken by RWDI with regards to the potential impact to the pedestrian wind environment conditions around the site for the Section 4.55 modification application with respect to the approved Stage 1 Concept Envelope for the Pitt Street North OSD. Noting the changes to the envelope outlined above and discussed in this document, the effect on the pedestrian wind environment conditions are expected to be minimal.

Yours truly,  
**RWDI**

A handwritten signature in black ink, appearing to read 'Kevin Peddie'.

Kevin Peddie, B.E.(Aero), MsEM, CPEng NER  
Regional Manager / Associate

A handwritten signature in black ink, appearing to read 'Michael Pieterse'.

Michael Pieterse, M.A.Sc., CPEng, P.Eng.  
Project Manager / Associate