



August 19, 2009

WA619-03F01(rev0)- Wind Effects Letter.doc

Architectus
Level 3, 341 George St
Sydney

Attn: Mr Colin Odbert

**RE: 33 Cross Street, Double Bay – Response to Comments on
Pedestrian Wind Effects Statement**

Dear Sir,

This letter discusses the comments made by the Department of Planning on the Pedestrian Wind Environment Study of February 4 2009 (Report Ref. No. WA619-01F03(rev1)) for the proposed 33 Cross Street Development. In the first section the effects of the design changes on the expected wind conditions around the site are discussed and in the second section responses are made to specific questions raised during the consultation period.

This letter is based on an inspection of drawings No. DA02-01 to DA02-13 and DA3-01 to 04 prepared by Architectus, Sydney dated 12 August 2009 and landscaping plans SK02 and SK03 prepared by McGregor+Coxall received 18 August 2009.

Effect of design changes

The changes between the current scheme and that of the February 2009 scheme that may be significant with regards to wind environment effects are summarised as follows:

- 1) Changes to external form of the East and West Towers,
- 2) Relocation of the hotel and tower entries,
- 3) Removal of the north-eastern ground floor restaurant courtyard,
- 4) Re-orientation and re-shaping of the north podium block balconies,
- 5) Rearrangement of the Level 5 north-eastern block balconies,
- 6) Re-shaping of the eastern podium balconies,
- 7) Repositioning and reduction in height of the eastern tower blocks,
- 8) Reduction in height of the Cross Street Podium (5 Levels to 4 Levels) and re-arrangement of the layout and landscaping plans of the Cross Street Podium Roof terrace,

- 9) Re-arrangement of the Level 4 eastern podium roof garden and terrace,
- 10) Re-arrangement of the Level 5 western podium roof garden and terrace,
- 11) Re-orientation and re-shaping of the upper eastern tower balconies,
- 12) Re-orientation and re-shaping of the upper western tower balconies,
- 13) Re-arrangement and re-orientation of the roof terraces.

The effects of the changes listed above are discussed below:

- 1) The changes to the external plan form of the eastern and western towers is relatively minor and are not expected to impact on the results reported in the February 2009 report as the additional set backs on the southern façade are small compared to the width of the tower.
- 2) It is expected that the relocation of the hotel and tower entries will not lead to wind entry problems at these locations due to their orientation relative to the pre-dominant wind directions and the effect of the retention of the large existing trees on Cross Street.
- 3) Due to the removal of the restaurant courtyard the areas monitored by Points 13 and 14 in the February 2009 report are no longer accessible to general pedestrian traffic.
- 4) It is expected that with the addition of impermeable balustrades that the balconies on the north-east corner of the north podium block will be suitable for its intended use. The remaining balconies will experience wind conditions similar to those measured in the February 2009 report. Wind conditions will be further enhanced with the inclusions of the proposed privacy screens.
- 5) The areas monitored by Points 32 and 33 in the February 2009 report are no longer accessible to general pedestrian traffic. It is expected that wind conditions on the proposed balcony in that area will be acceptable for its intended use. Wind conditions will be further enhanced with the inclusions of the proposed privacy screens.
- 6) It is expected that the wind conditions on the eastern podium balconies will be suitable for their intended use.

- 7) The eastern tower has been moved to the north relative to its position in the February 2009 report and its height reduced from 55.3m to 45.95m. It is not expected that this repositioning and reduction in height will impact nearby pedestrian wind conditions as:
- the reduction in height will reduce the impact of the tower on local wind conditions,
 - the tower is setback from the property boundary,
 - the spacing between the eastern and western towers is similar that of the February 2009 design,
 - the external form of the tower is similar to the February 2009 design

- 8) The Cross Street podium has been reduced in height from 5 Levels to 4 Levels. A roof terrace has also been included on Level 4 and it is of similar design to the roof terrace on Level 5 of the February 2009 design.

It is expected that the reduction in height of the podium by one Level will have no impact on ground Level wind conditions. The reduction in height may increase the exposure of the Level 4 restaurant terrace to southerly winds. Localised treatments such as portable screens at the southern side of the seating areas may be required.

Wind conditions on the Level 4 roof terrace between the eastern and western towers may be unfavourable due to a potential funneling effect. However with the inclusion of a landscaping plan on the Level 4 terrace similar to that shown in the current design and as detailed in Figure 1, it is expected that wind conditions on this terrace will be acceptable for their intended use. The proposed impermeable balustrades/ screens will further assist in maintaining acceptable wind conditions in that area.

- 9) The accessible deck on the Level 4 eastern podium roof terrace has been extended to the north compared with the February 2009 design. With the inclusion of the proposed impermeable balustrade along the perimeter of this deck wind conditions are expected to be suitable for its intended use. Wind conditions will be further enhanced with the inclusion of a landscaping plan similar to that shown in the current design.
- 10) The accessible deck on the Level 5 western podium roof terrace has been extended to the north compared with the February 2009 design. With the inclusion of an impermeable balustrade along the perimeter of this deck similar to that shown in the current design, wind conditions are expected to be suitable for its intended use.
- 11) The Level 6 - 13 balconies on the western tower have been relocated towards the centre of the northern façade of the tower. It is expected that wind conditions on these balconies will be suitable for their intended use.

- 12) It is expected that with the inclusion of impermeable balustrades as shown on the current design that the balconies on the north-east corner of the East tower will be suitable for its intended use.
- 13) The position and size of the pools and adjoining deck areas on the roof top terraces of the eastern and western towers have been relocated compared to the February 2009 design. It is expected that with the inclusion of impermeable balustrades as shown on the current design that these roof top terraces will be suitable for their intended uses.

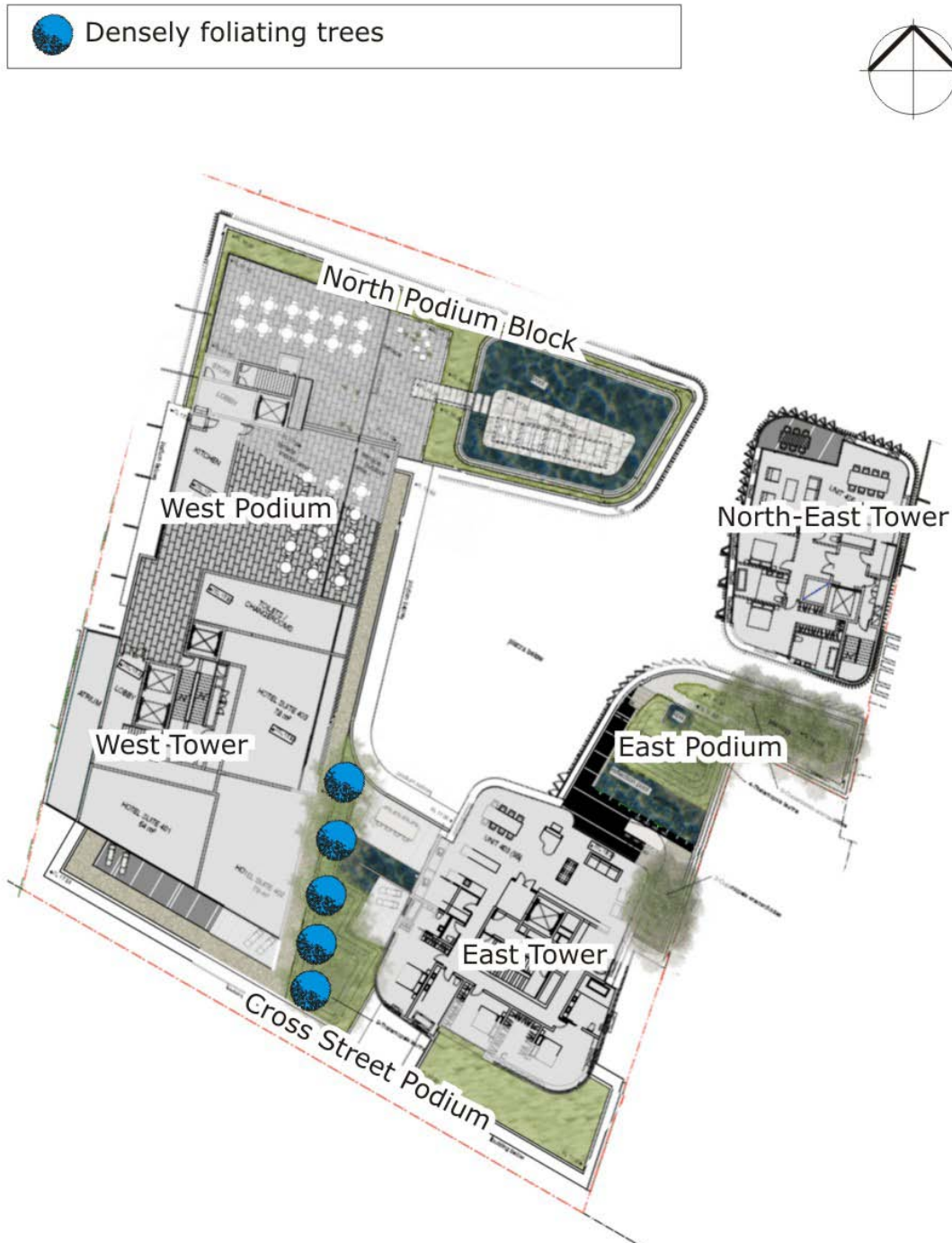


Figure 1: Recommended strategic planting for Level 4

Questions arising from public consultation

During the public consultation period local residence asked why study points were not located on Galbraith Walkway which is located to the north of the site. Study Point 15 was located at the entrance to Galbraith Walkway and wind conditions at this location were found to be acceptable for long duration stationary activities. Based on these measurements wind conditions along Galbraith walkway are not expected to be impacted by the proposed development

Regards,

A handwritten signature in black ink that reads "Nicholas Truong". The signature is written in a cursive style with a long, sweeping underline.

WINDTECH Consultants Pty Ltd
Dr Nicholas Truong