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Ref: **CPP 18682 – 100 Botany Road**

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Impact of massing changes on wind effects

CPP has previously conducted wind tunnel testing for the pedestrian level wind impacts of the proposed 100 Botany Road development in Alexandria. This letter provides a review of the changes to the building massing, and the expected impacts of these changes on wind conditions around the site.

To provide guidance on the wind conditions within a given space, an environmental wind criterion is often referenced, such as that developed by Lawson (1990). Such a criterion delineates a framework within which certain types of activities are associated with a wind speed for a given percentage of time. In the case of the Lawson comfort criterion a 5% of the time wind speed is used. The subjective nature of the suitability of a location based on the expectations for the type of space should be considered along with the intended use of space when interpreting the wind advice herein.

Wind tunnel testing conducted by CPP of the proposed development showed that wind conditions at ground level locations around the site met the target wind comfort requirements under the Lawson criteria with the majority of test locations meeting the Pedestrian Standing comfort criterion (CPP 2024). Windier conditions were observed on the eastern side of Botany Road which are largely driven by the Waterloo Metro Quarter Over Station Development rather than the proposed development at 100 Botany Road.

It is understood that the design of the proposed development has slightly changed since the wind tunnel test. The main change is a reduction in the height of the southern half of the proposed development in line with the LEP height limits, while the building envelope extends slightly further south and north than in the tested design. The overall height of the building in the northern half remains the same. A comparison of the building envelope as tested and the new design is shown in Figure 1.

Generally, the proposed massing change is minor and would not significantly affect ground level wind conditions. It is expected that the wind conditions around the site would not differ significantly from those reported from the wind tunnel testing.

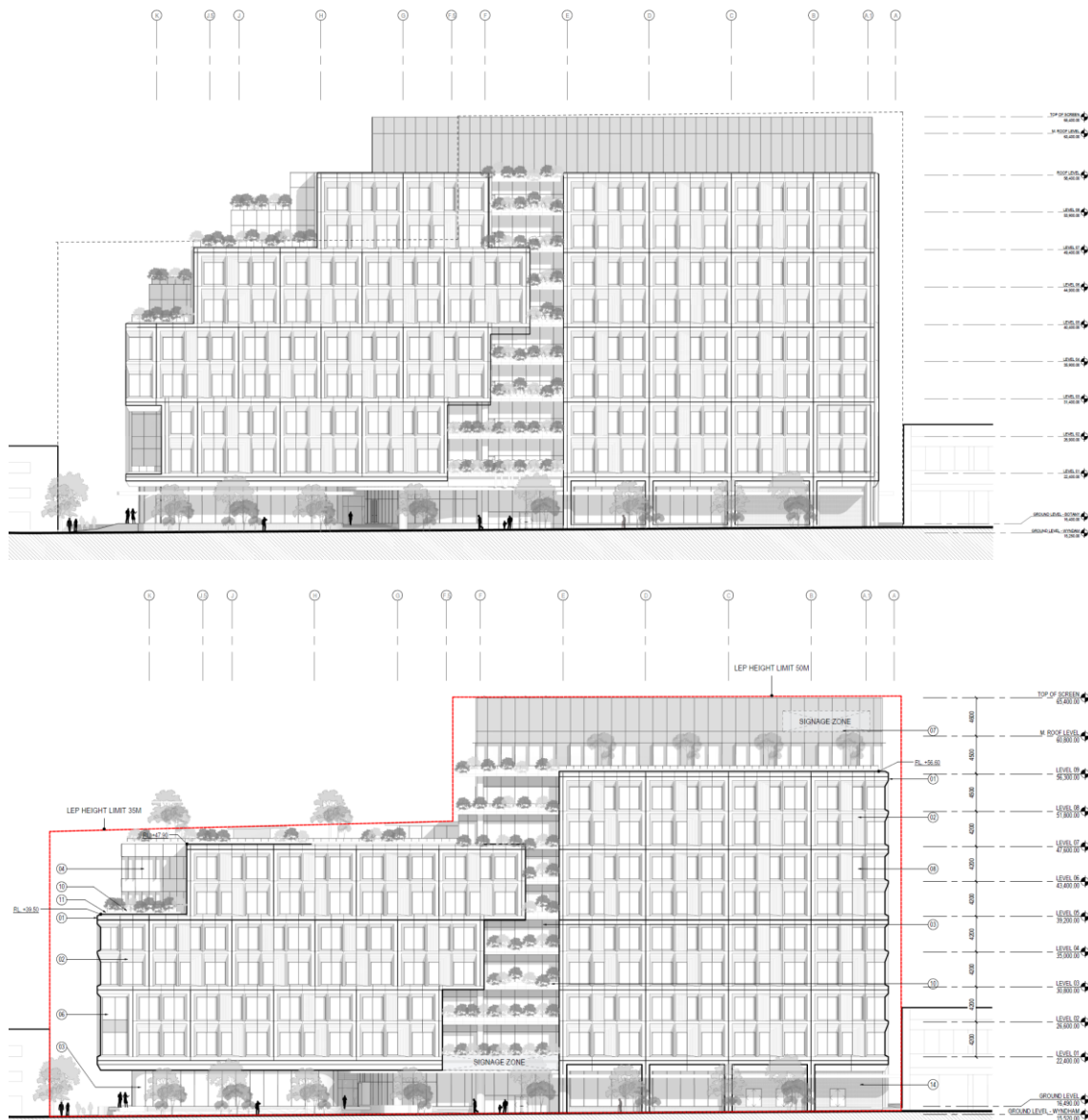


Figure 1: East Elevation as tested (top) and revised design (bottom), (Gensler, 2024)

Please contact the undersigned should you have any questions regarding the above.

Yours Sincerely

Joe Paetzold, PhD
Engineering Manager

CC: Julian Kiono
Project Engineer

References:

Cermak Peterka Petersen (2024) Pedestrian Wind Assessment: 100 Botany Road Development. CPP Project 18682. 28th June 2024.

Lawson, T.V. (1990), The Determination of the Wind Environment of a Building Complex before Construction, Department of Aerospace Engineering, University of Bristol, Report Number TVL 9025.