

24th August 2021

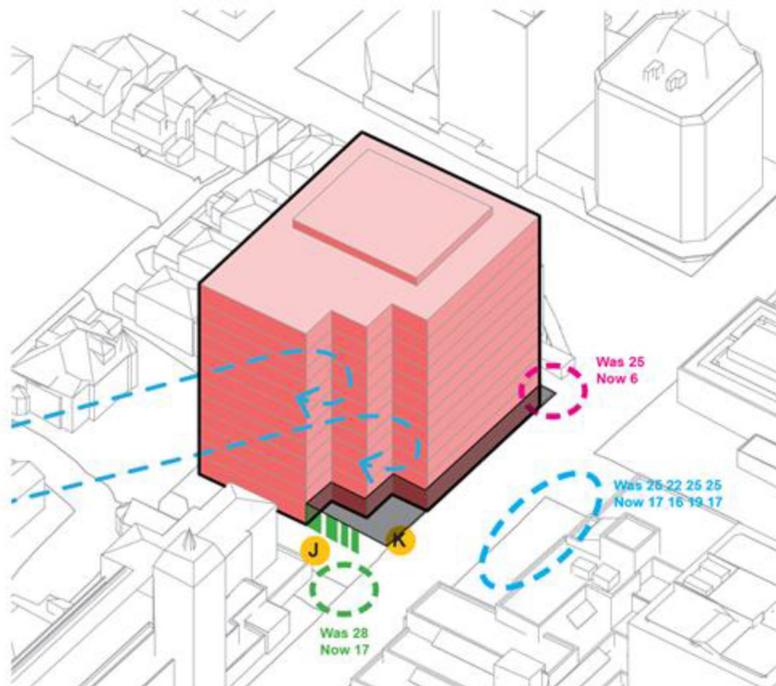
61 Molesworth Street Office Development

ADDITIONAL INFORMATION – WIND TUNNEL DATA

The following statement has been compiled in response to the request for commentary on wind tunnel dataset information provided in the resource consent design statement prepared by Jasmax for 61 Molesworth Street. Specifically, the following questions were asked to be addressed.

Overall Best Performance in Wind Option 5: Stepped Corner

- Previous problem areas - wind reduced below 20m/s threshold
- corner points J&K require localised wind mitigation
- Possible solutions to test at concept design - plaza canopy, hit and miss screening to south boundary, landscaping/trees



This diagram indicates that the park across the road (blue dotted oval) has been measured in 4 different places and has been significantly improved. It also indicates that the area near the entrance has been significantly improved and there is a planned screen to be added. However, on second glance, the data in this diagram does not fit with the data in the wind tunnel test. I have compiled the relevant pages from the wind tunnel test to enable comparison and these are enclosed in the attachment. Before I complete my wind assessment, I would be interested to have the Applicant's comments as to how respective data sets should be reconciled.

Commentary

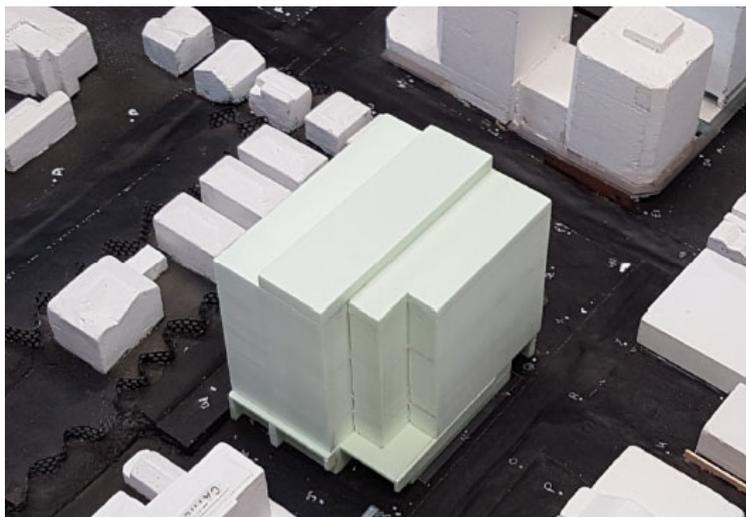
The table of wind speed measurements provided on Page 19 of the Jasmax Design Statement, as well as the diagram provided on Page 20 (as above) were based on initial pre-design wind testing completed by WSP. Initial pre-design testing was completed on 6 differing building forms which were put in the wind tunnel and tested for wind speed with a

focus on wind performance in the worst case and problematic southern and northern wind directions particular to the site (210°, 190°, 320°, 360°). The stepped corner building form provided the best performance. The diagram on Page 20 – showing improved performance (blue oval) to the park across the road, and area in front of the south entrance (green dashed oval) are based on these initial pre-design testing results.

The final results provided in WSP's Wind tunnel study report are the full comprehensive wind tunnel results provided after the design was completed for resource consent. Between pre-design and resource consent testing the stepped massing form was further developed and refined. A new foam model was made and tested in the WSP wind tunnel. The difference in tested form can be seen below:



Above Pre-design foam model – Shows stepped corner, no verandah and generic plant to roof



Final full wind tunnel tested foam model – model refined to show design development. Including verandah, vehicle entry, plant to roof.

JASMAX

Jasmax included the initial pre-design wind speed results into the resource consent design statement to describe the design process as the pre-design results had a major influence on determining the form of the building.

For Dr Mike Donns assessment, the final WSP wind report and the dataset provided in their wind report should be used for his wind assessment. The dataset provided in the Jasmax design statement is used to explain and design methodology and how pre-design wind testing has helped to shape the form of the building.