

14th July 2021

61 Molesworth Street Office Development

ADDITIONAL INFORMATION – WIND MITIGATION

The following statement has been compiled in response to the point 1 of the request for additional information received from the EPA in regard to the Molesworth Street Office Development as tabled in the letter to our client and applicant Prime Property Ltd dated 6th July (File ref: FTC000021) quoted below:

- 1. Please advise whether any specific wind mitigation measures are proposed in the vicinity of the south-eastern corner of the proposed building where gust speeds have increased over the 20m/s District Plan Safety Criteria as described in the WSP Wind Tunnel Study (Attachment 4 to the Application at pages 12-13).*

Molesworth Street Wind Mitigation Measures – An Overview:

The design of the building form of the proposed Molesworth Street development has been driven by wind performance and the effects of wind to the pedestrian environment. At feasibility and concept stage Jasmax Architects and WSP Wind Engineers worked closely to design and test a range of building forms and shapes. These initial building forms were developed with WSP wind engineers and consideration of the Wellington City Council's Design Guide for Wind.

Six final forms were tested in the WSP wind tunnel 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 building form option with a southeastern stepped corner provided the most positive performance in the southern wind direction. The stepped corner articulation appears to have the effect of dissipating and lowering the wind speed – reducing what is known as the corner effect of wind.

The corner effect or corner acceleration happens when the wind reaches the vertical edge of a tall building. This effect is mainly created from sharp building shapes, causing acceleration around the corners. These corners of buildings can create the highest discomfort in a built environment. By providing a stepped design or disruption to the corner of the building form this helps to reduce the wind speeds in the area. The proposed design of 61 Molesworth Street utilises this stepped design to help to mitigate wind speeds in the southerly direction.

Further Wind Mitigation Measures – South Eastern Corner:

While the general form of the stepped southern corner design helps to reduce the effects of corner acceleration. Additional wind mitigation measures have also been incorporated to reduce wind effects in this location. This includes the design of a large canopy and podium roof structure overhead which protects the ground floor pedestrian environment from downwashing of wind above. Vegetation and screening have also been incorporated in the landscape design to provide shelter to pedestrians and reduce the adverse effects of wind in this location. We have proposed carefully positioned trees and built screening to the southern entry – this can be seen in our exterior render of the building entry attached below.

