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Planning
Manchester City Council
Floor 6 Town Hall Extension
Albert Square
Manchester
M60 2LA

Dear Angela

Revised wind assessment methodology in relation to the proposed residential-led development at land east of Deansgate, Manchester.

Avison Young on behalf of Deansgate SOF Alliance ResidentialCo Limited submitted an Environmental Impact Assessment (EIA) Scoping Request to Manchester City Council (MCC) on Thursday 17th June 2021 in respect of the above site to formally determine the scope of the EIA under the provisions of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

The EIA Scoping Report which accompanied the Scoping Request outlined the environmental disciplines that were intended to be scoped into the EIA and the approach to the assessments for each. Topics which are intended to be scoped into the EIA include:

- Townscape and Visual Impact Assessment.
- Heritage.
- Wind Microclimate.
- Socioeconomics.
- Human Health.
- Climate Change.

Following the submission of the EIA Scoping Report, new wind microclimate consultants (GIA) have been brought into the project who have a different approach to the wind assessment than what was outlined in the Report. Rather than using wind tunnel testing for the assessment works, they propose instead to undertake Computational Fluid Dynamics (CFD) testing to assess the potential impacts of the scheme with regards to wind.

The justification of using CFD modelling as opposed to wind tunnel testing is noted below:

- GIA use high resolution CFD, which avoids the correlation issues that lower resolution “legacy” CFD methods had with mesh resolutions which were too coarse to capture the complex flow conditions found in the urban environment.
- Using CFD allows GIA to report conditions across all of the local ground, rather than just at pre-specified probe locations. This avoids issues which wind tunnel can have where potential issues are missed (due to being between probes) or mitigation measures are deployed which only move issues rather than eradicating them (by moving an issue from a probe location to between two probe locations).
- High resolution CFD allows GIA to run at full scale (rather than being limited to 1/300 scale as in the wind tunnel) and allows us to use a more detailed model of the surrounding buildings and terrain than is possible in the wind tunnel, to ensure real word conditions are matched as closely as possible.
- GIA use a conservative gust correction to ensure that the effects of gusts on comfort and safety levels are captured and that any potential safety concerns are highlighted.
- The use of CFD for tall buildings is well established in Manchester, and was used on such developments as Angel Gardens, Great Jackson Street and Victoria House.

In light of the above, it is GIA and Avison Youngs belief that CFD testing will produce a robust wind assessment for the proposed development and will identify any adverse wind conditions that could be produced as a result of the proposed development and as such can be used in place of wind tunnel testing.

We would be grateful if MCC could confirm whether the revised approach is acceptable.

I trust the above is clear, but should you have any queries then please do not hesitate to get in touch.

Yours sincerely



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For and on behalf of Avison Young (UK) Limited