WINDTECH

Doc Ref: WJ315-03F01(rev0)- Technical Addendum

Date: June 5, 2026

To: Cardiff Council, Planning Department

Address: Cardiff Council, County Hall, Atlantic Wharf, Cardiff, CF10 4UW

RE: WJ315-03F01(REV0)- TECHNICAL ADDENDUM

Dear Sir/Madam,

This letter serves as a technical addendum to the issued wind microclimate assessment. It addresses the impact of the design changes on the proposed development at 51-59 Penarth Road, Cardiff.

A CFD test for wind comfort conditions around the proposed development site and surroundings was previously conducted by Windtech Consultants in February 2025. The results of the CFD assessment are presented in the previously issued wind environment CFD report used as a baseline for the analysis outlined in this Technical Addendum (Ref: WJ315-01F02 (rev1) - CFD WE Report).

This Technical Addendum is expected to be submitted to Cardiff Council.

Regards,

Windtech Consultants
Dr Niall O'Sullivan | Director

1 INTRODUCTION

This Technical Addendum is prepared by Windtech Consultants to evaluate the wind environment effect of the design changes made to the proposed development at 51-59 Penarth Road, Cardiff. Previously, CFD testing was conducted to assess the wind conditions around the proposed site. The results presented in the issued wind microclimate assessment report (Ref: WJ315-01F02 (rev1) - CFD WE Report) form the baseline for the discussions outlined in this letter.

In June 2026, post-wind assessments, it is shown from drawings received on 28.05.2026 that adjustments have been made to the development. Specifically shown in Figure 1-2 below.

2 DESCRIPTION OF THE DESIGN CHANGES

The following design changes were made to the proposed development:

- Two three-story high blocks added to the central part of the main massing
- Reconfiguration of ground floor entrance layout on Penarth Road
- Reconfiguration of main roof areas and introduction of a large roof terrace

Figure 1: Proposed Previous Scheme

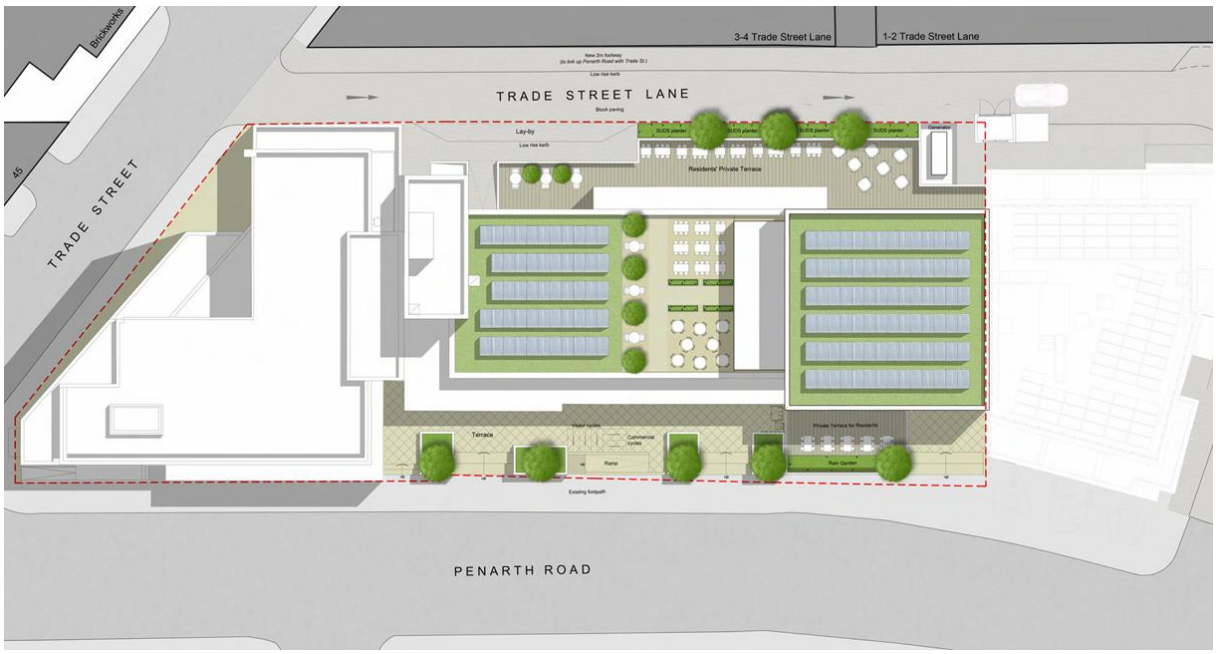

Figure 2: Proposed Adjusted Scheme

3 WIND ENVIRONMENT IMPACT OF THE DESIGN CHANGES

The addition of the 2 three story blocks will redirect the wind flow that previously flowed above the previous main blocks. Therefore, the magnitude of wind acceleration along Penarth Road and around the corners of the proposed development will increase, in particular on the North-West façade of the development on Penarth lane.

The magnitude of downwash and upwash on the North-Eastern and South-Western facades may increase as a result of the blockage caused by the additional three storey blocks. This will increase the magnitude of wind acceleration on the proposed terrace area. However, the wind conditions at this terrace area are not previously known. Therefore, 1.8m high solid balustrades are recommended to ensure no wind exceedances.

4 CONCLUSION

The overall impact of the design changes is expected to produce similar wind conditions as presented in the previously tested CFD wind microclimate study. Results of the study can be found in the issued report titled "Ref: WJ315-01F02 (rev1) - CFD WE Report".

Mitigation measures presented in the report (Ref: WJ315-01F02 (rev1) - CFD WE Report) are still pertinent for addressing any adverse wind conditions that could occur due to the design modifications. In addition, 1.8m high solid balustrades are recommended on the proposed terrace area to alleviate any possible exceedances on the proposed terrace.