



WIND SHEAR

TECHNICAL NOTE

Manchester Business Park

Manchester

02/2026

GIA No: **23458** Letter Ref: **CH/23458**

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GIA have been commissioned by Ask Real Estate to review the potential for Wind Shear at Manchester Airport due to the Proposed Development Manchester Business Park, Aviator Way. The aim of this technical note is to assess whether the proposed development would impact the wind shear of incoming planes to the Manchester Airport run ways.

For Airport Runway Wind Shear assessments, the following guidance can be followed:

- Licensing of Aerodromes (CAP 168) by Civil Aviation Authority(CAA), and in particular the Aerodrome Safeguarding Advice Note.
- The National Airports Safeguarding Framework (NASF) guideline, Australia
- The National Aerospace Laboratory of The Netherlands (NLR) report

The Aerodrome Safeguarding Advice Note states: "Developments close to the aerodrome, depending on their size and location have the potential to cause wind shear and turbulence that could be hazardous to aircraft operations."

The NASF and NLR defines areas within which buildings have the potential to impact the wind shear and turbulence to aircraft operations. Figure 01 draws the NASF trigger area around the north section of the Manchester Airport Runway (05L/23R). This identifies the Proposed Development is located within the trigger zone and an therefore needs to be considered for Wind Shear impact.

Acceptance Criteria

When first assessing whether a site is at risk of impacting the Wind Shear of an airport runway, the 1:35 rule should be applied. Figure 02 should be reviewed with the following explanation.

If a proposed structure is located within the trigger area, then its acceptability is dictated by the "1:35 height rule" as follows:

- If the building is located at a distance from the centreline of a nearby runway which is more than 35 times the proposed structure height, then the building can be considered acceptable.
- If the building is located at a distance from the centreline of a nearby runway which is less than 35 times the proposed structure height, then a in-depth wind shear and turbulence analysis is required through wind tunnel or CFD modelling to assess the building-induced wind shear and turbulence effects against the acceptance criteria detailed in NLR-CR-2006-261 (known as the "7-knot along-wind criterion", "6-knot cross-wind criterion and "4-knot turbulence criterion").

Assessment

The site AOD is 70m and the runway AOD is 74m. The tallest building on site is ~11.715m tall. A worse case scenario of the 1:35 rule for the site is (~12x35) 420m. The site is 500m from the centreline of the runway. As the site is more than 420m from the centreline of the runway, the proposed development on this site is deemed acceptable, and no further assessment is required.

Yours sincerely

For and on behalf of GIA

Chris Harley

Director



Fig. 01: National Airports Safeguarding Framework (NASF) Assessment trigger area around runways, within which buildings should be assessed, with Proposed Development Highlighted (blue).

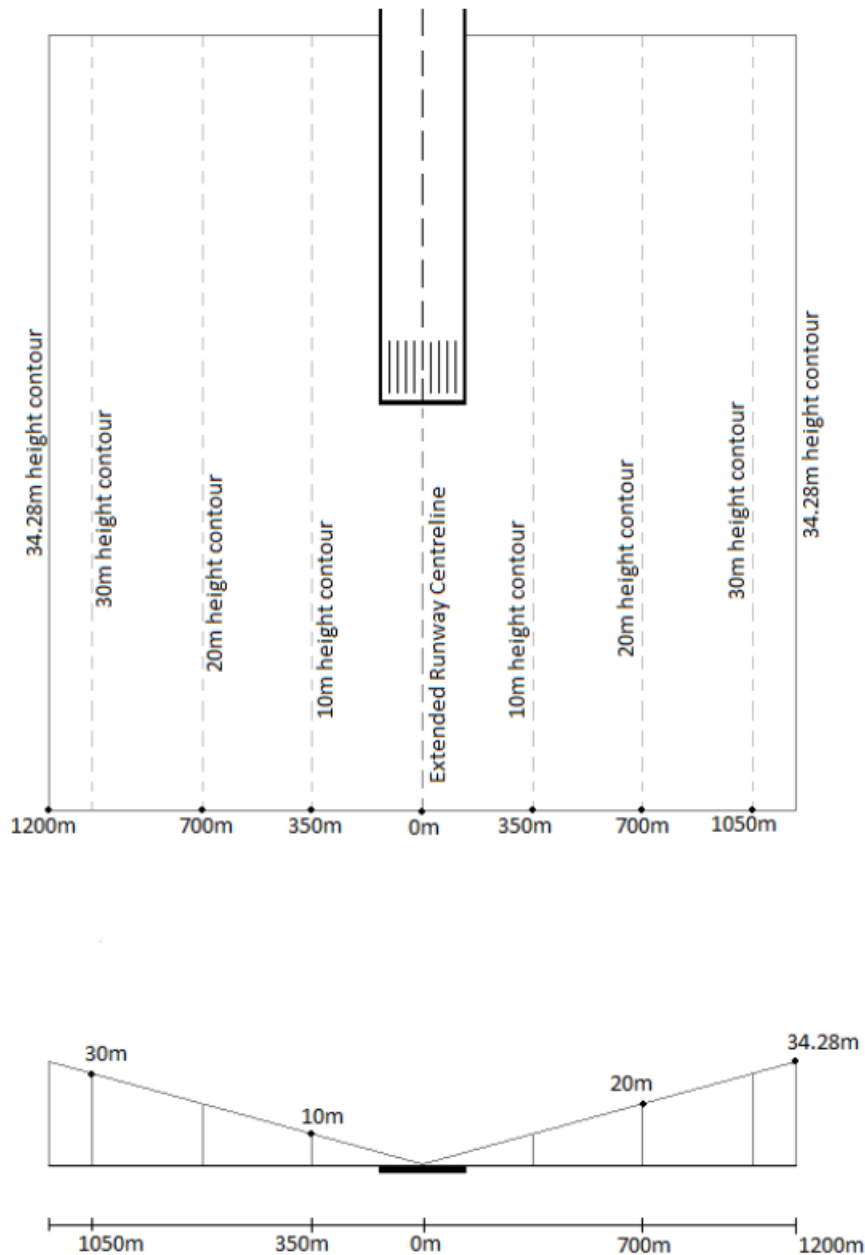


Fig. 02: (Top) Plan view of the 1:35 surface within the assessment trigger area. (Bottom) Elevation view of the 1:35 surface, looking down the runway centreline. Illustrative purposes only – not to scale.



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