Jonty Ashworth
Bicester Motion
Buckingham Road
Bicester OX26 5HA

29 June 2023

Dear Jonty

Planning Application for the Innovation Quarter

On behalf of Alan Stratford and Associates Limited, I am writing with an assessment of the impact on the aircraft take-off and landing distances available at Bicester Airfield as a result of the revised planning application for the proposed Innovation Quarter (formerly known as the F.A.S.T. zone).

We should initially point out that as Bicester is an unlicensed airfield and, as such, there is no statutory requirement to maintain defined obstacle free surfaces as specified in CAP168 'Licensing of Aerodromes'. However, whilst there are no defined obstacle free surfaces, pilots will still need to provide sufficient clearance over buildings on take-off and approach. In order to do this, the runway length available for take-off or landing may be restricted (eg by a displaced threshold), dependent on the climb or descent performance of the aircraft.

There are a wide range of aircraft that currently or potentially could use Bicester Airfield in the future, including many vintage aircraft and 'warbird' types, all of which have differing performance characteristics. For the purposes of our assessment, however, we have evaluated the maximum take-off run distance available (TORA) and landing distance available (LDA) in a R16/34 runway orientation, based on the obstacle clearance requirements for a licensed airfield. Whilst these will be shorter than the feasible distances based on the performance of most aircraft using or likely to use Bicester Airfield, this does represent a 'gold standard' for the maximum TORA and LDA distances available. We should point out that other runway orientations eg R06/24 may sometimes be preferred, dependent on the prevailing wind conditions.

We initially assessed the maximum TORA and LDA distances available in a R18/36 orientation based on the original plan for the F.A.S.T. zone (per ASA report dated November 2019). At this point, the airfield was primarily used for gliding operations by the Windrushers Gliding Club using tug and winch launches. Although the Gliding Club's website showed a diagram with a runway orientation of R18/36, they subsequently advised that the actual orientation normally used for tug and winch launches was R17/35. The Windrushers Gliding Club has now left and the airfield is now predominately used by a number of smaller fixed wing aircraft based at the airfield and by vintage aircraft (eg for fly-ins and special events). It is also noted that the published runway orientations eg on the airfield operator's website and in Pooley's

Flight Guide Bicester are now R06/24 and R16/34. On this basis, we consider the implications for the maximum TORA and LDA in an R16/34 orientation.

For licenced airfields, the take-off slope surface for a non-instrument Category 1 runway is defined in CAP168 and comprises a 5% (1 in 20) slope commencing from a 60m inner edge located 30m from the runway end. This slope is splayed by 10 degrees from the runway centreline. This surface must not be penetrated by any buildings or other obstacles. A similar slope applies on approach.

The take-off and approach slopes are shown in the attached diagram. It is clear that, due to the change in the runway orientation, the buildings in the Innovation Quarter are now outside the protected take-off and approach slopes that would apply under CAP 168 regulations, so the current declared length of the R16/34 runway (790m) would be unchanged.

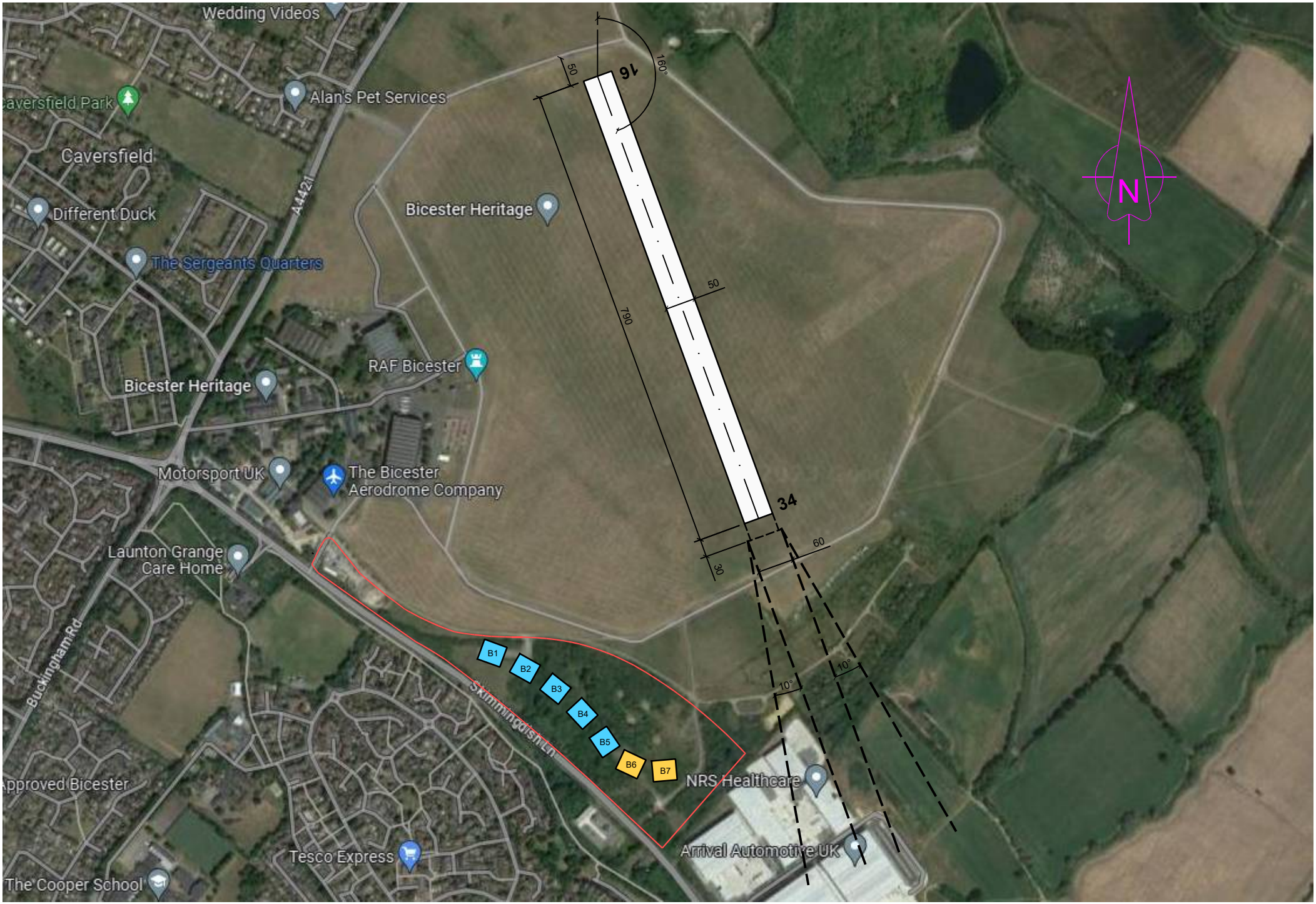
The R16/34 runway length is sufficient for all aircraft currently based at the airfield and for those vintage aircraft and warbird types currently using the airfield for fly-ins etc, although further analysis would be required for other aircraft types. There are a large number of different types, most smaller vintage aircraft and warbirds in regular use have short runway take-off (and landing) distance requirements. As illustrative examples, a Supermarine Spitfire needs about 210m on take-off and 290m on landing, whilst a Piper PA-19 Super Cub just requires 125m on take-off and 90m on landing, although these distances do vary according to the wind conditions and as to whether the grass is wet or dry.

I hope that this meets your requirements in relation to the updated planning application, but please contact me if you have any queries on this.

Yours sincerely

[redacted]

Peter A Forbes
Managing Director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BICESTER MOTION - INNOVATION QUARTER
PARAMETER PLANS

Heights & massing

Appropriate building height parameters have been established, considering the challenges and opportunities outlined in the consented scheme. The site naturally rises from east to west – starting from 74,3m and reaching 76,0m. The buildings has been carefully arranged and shaped to provide suitable surface opportunities for visibility and branding. The resulting seven buildings have a clear height of 10.5m above FFL.

KEY:

- Application Boundary
- Ownership Boundary
- Indicative infiltration swale
- Panhandle area
- Up to 9m above FFL
- Up to 10.5m above FFL
- Up to 13.5m above FFL
- Up to 20m above FFL