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London Biggin Hill Airport Airspace Change Proposal

Stakeholder Update

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The Hub, Fowler Avenue, Farnborough Business Park, Farnborough, GU14 7JP

01420 520200 / enquiries@ospreycl.co.uk

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1 Glossary

Acronym	Meaning
ACP	Airspace Change Proposal
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure
IFP	Instrument Flight Procedure
LBHA	London Biggin Hill Airport
LTMA	London Terminal Control Area
MAP	Missed Approach Procedure
RNAV	Area Navigation
VFR	Visual Flight Rules



2 Biggin Hill Runway 03 Instrument Approach

2.1 Background

In April 2015, London Biggin Hill Airport (LBHA) began the process for the introduction of an Area Navigation (RNAV) Instrument Approach Procedure (IAP) to Runway 03 at LBHA. This process was conducted in accordance with the requirements specified in the Civil Aviation Authority's (CAA) Guidance on the Application of the Airspace Change Process (Civil Aviation Publication (CAP) 725).

The introduction of an IAP will provide an instrument approach capability to Runway 03 which does not currently exist. This will enable all-weather operations to be conducted safely and efficiently when the weather conditions dictate that Runway 03 is in use and reflects the enhanced navigation capabilities of the generation of business aircraft currently operating at LBHA. The current IAPs for LBHA require that, when Runway 03 is in use, an aircraft must carry out an instrument approach to Runway 21 followed by a visual circling manoeuvre to reposition onto the final approach to land on Runway 03.

LBHA submitted its formal Airspace Change Proposal (ACP) to the CAA in May 2017. This document summarises the development of the IAP through the CAP 725 process and demonstrates how the design has evolved as a result of feedback from consultation events.

2.2 Introduction

As part of the procedure development process, LBHA was required to carry out a full Sponsor Consultation with the aviation industry and other interested parties, as specified in CAP 725. Moreover, LBHA provided the opportunity for individual members of the aviation community and the public who may be directly or indirectly affected by the proposed change to have the opportunity to provide comment on the proposal before its submission to the CAA.

As a result of both operational and environmental concerns identified during the consultation, changes were made to the design of the IAP and LBHA conducted a second round of consultation with those stakeholders who may have been affected by the changes.

LBHA is committed to minimising the effects of its proposed design on aviation stakeholders who currently utilise the local airspace and on those communities that may be affected by the proposed change. LBHA has undertaken a further modification of the proposed IAP considered in both consultation periods that recognises and mitigates for some of the concerns raised during the consultation process. Details of the final proposal that was included in the ACP submission to the CAA is shown in paragraph 2.5 below.

2.3 Original Design & Consultation

Figure 1 below shows a schematic of the original IAP design that was shared with stakeholders during the first round of consultation. The procedure starts at an existing position called ALKIN. Associated with ALKIN is a holding pattern that is utilised should the aircraft need to hold, either because of traffic sequencing or whilst waiting for a weather improvement to enable an approach to be safely initiated. The routing from ALKIN, via the LBHA overhead, was designed to deconflict with traffic operating out of London Gatwick and London Heathrow Airports and to avoid the direct overflight of significant residential areas, such as Orpington and Farnborough by routing instead over relatively open countryside. Subsequently, the predicted aircraft path continues on a westerly track before turning south-westerly to provide some displacement to the west of LBHA so that the aircraft has enough space to turn onto final approach. The height restrictions and speed limitations demanded of the procedure were designed to keep the aircraft within Controlled Airspace (CAS) for as long as possible and to keep the aircraft in a configuration that will reduce noise to the absolute practical minimum. Maintaining the aircraft within CAS eliminates any interaction between other General Aviation (GA) activities conducted outside of CAS. The Missed Approach Procedure (MAP), indicated in green on the diagram below, is not an emergency action but is a specified, controlled and pre-planned course of action, should the aircraft be unable to land after making an approach; a published MAP is designed to ensure that aircraft remain safely separated from ground obstacles and other traffic, and enables them to reposition back towards ALKIN where the aircraft can enter the hold, from where the procedure can be re-commenced. A MAP is a rare event and will not be a regular feature of operations.

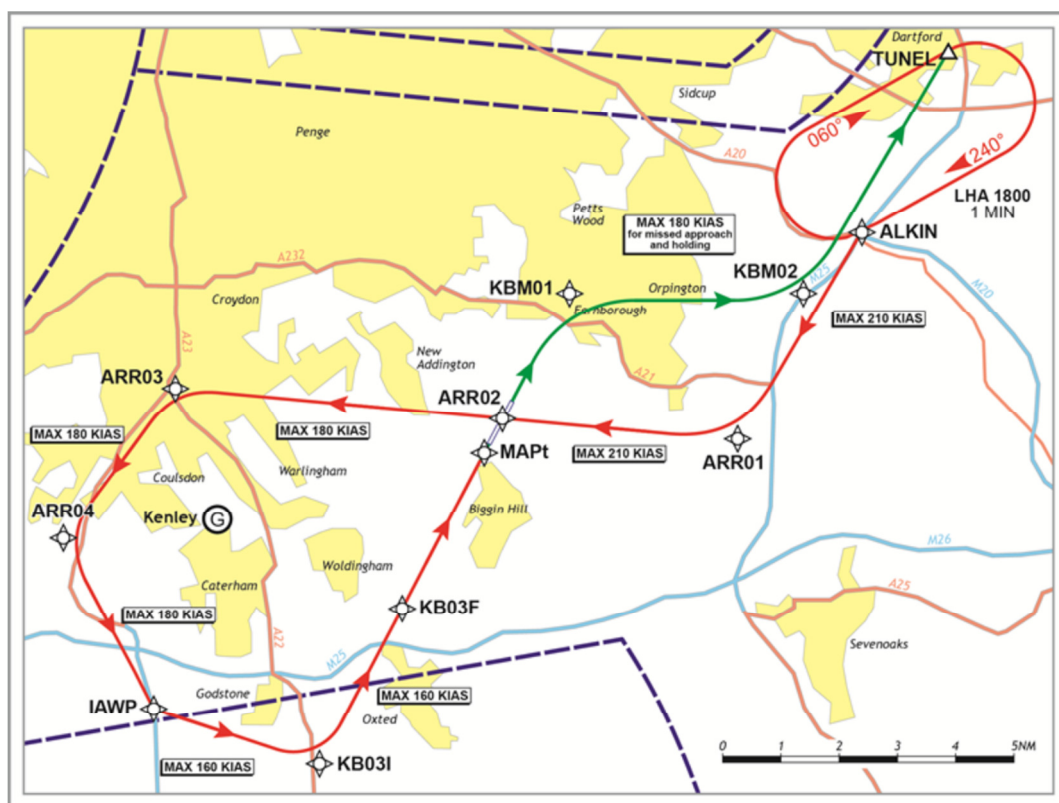


Figure 1 – Original Proposed IAP Design for the Initial Sponsor Consultation



The original Sponsor Consultation took place during the period 18 November 2015 to 26 February 2016. A number of important issues, both of an operational and an environmental nature, were identified by the responses to the Consultation, which needed to be addressed and resolved before the proposal could be progressed further.

The key operational matters related to the interaction of the proposed procedure with the flight profiles of departure routes from London Gatwick and London Heathrow Airports.

The environmental concerns related to the alignment of the proposed IAP over communities on the ground that are not currently overflowed, and the desire by these communities to reposition the nominal route of the proposed IAP away from their location. Whilst the procedure design had nominally routed aircraft over built up areas which are already subject to high levels of background noise, both from ground and air vehicles, this met with objection from some communities and Local Planning Authorities.

The consultation process required that LBHA take a balanced judgement on the key issues raised by consultees and, if necessary, adapt the proposed procedure design to mitigate their concerns where changes could be accommodated within the strict safety requirements for Instrument Flight Procedure (IFP) design and airspace management.

In view of the responses received, LBHA reviewed the alignment of the proposed IAP and an alternative flight path route was developed which reduced the number of communities overflowed. However, in some areas it had not been possible to develop a realignment of the procedure which would take nominal tracks away from built-up areas. As a result of the changes, it was determined that a further consultation would be required before the proposal could be submitted to the CAA.

2.4 Updated Design & Second Consultation

Figure 2 below shows the revised configuration of the proposed procedure in comparison with the original procedure outlined in paragraph 2.3 above. As a consequence of the changes, it has been necessary to alter the categorisation of the IAP to an Area Navigation (RNAV) Non-Precision Approach only. Realignment of the waypoints in the south west portion of the procedure has resulted in the nominal track lying along the M25 motorway, which alleviates some of the environmental concerns identified within the initial consultation. In addition, the height profile of the procedure has been amended to address the key operational matters, although this has resulted in the parts of the revised IAP lying in Class G uncontrolled airspace.



Figure 2 – Revised Procedure (red) Compared to the Original Proposal (blue)

A second round of consultation was carried out between 27 February 2017 and 10 April 2017. In analysing the responses received from the Supplementary Consultation, LBHA identified the key themes and issues that emerged from those stakeholders that did not support or who objected to the proposal.

From the aviation perspective, the primary concern of the GA airspace user community was the re-positioning and reduced altitude of the procedure to place aircraft below controlled airspace and on an alignment coincident with the M25. The motorway is widely used as a visual navigational line feature by GA traffic to avoid CAS. Furthermore, there was concern regarding the interaction of LBHA traffic with GA traffic operating under Visual Flight Rules (VFR) from both Redhill and Kenley airfields.

From the community perspective, the majority of objections to the reconfigured IAP came from residents of Woldingham, and in particular from The Ridge on the southern edge of Woldingham. The consultees expressed concern over the nominal track of the reconfigured IAP which now overflies their community at too low a height over the high ground of The Ridge. There was support for some aspects of the reconfiguration of the proposed procedure in so far as the alignment was now along or north of the M25 and away from Bletchingley and Nutfield areas.

In view of the responses received, LBHA again reviewed the alignment of the proposed IAP and further changes have been made to the flight path route to reduce the number of communities overflown. However, due to the constraints of the surrounding airspace, the runway alignment and the IAP requirement to place the aircraft in a suitable position on the final approach path to the runway from which a safe landing can be completed, it was not possible to make major changes to the procedure design.



2.5 Submitted Design

Figure 3 below shows the amended routing that the final proposed IAP will follow. The key changes that have been made to the procedure, as shown in Figure 4 and Figure 5, are as follows:

- Waypoint ARR04 (KBW02 in Figure 5) has been moved further south west avoiding direct overflight of Hooley.
- Waypoint IAWP (IAWP1 in Figure 5) has been moved east to route over the junction of the M25 and the M23, therefore avoiding Merstham.
- Waypoint KB03I has been moved further south (but not as far south as the original IAP design for the Sponsor Consultation) moving the procedure closer to the M25.
- The new route is more aligned with both the M23 and the M25 to assist identification of the route to glider pilots operating in the local area.

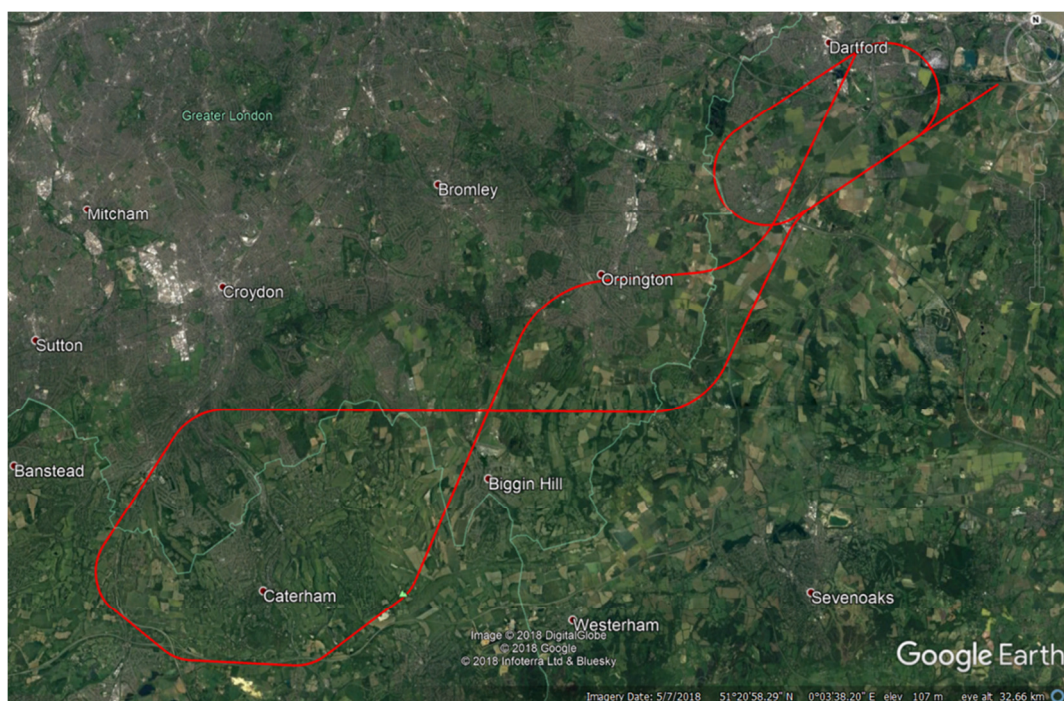


Figure 3 – Final Proposed IAP Design Routing

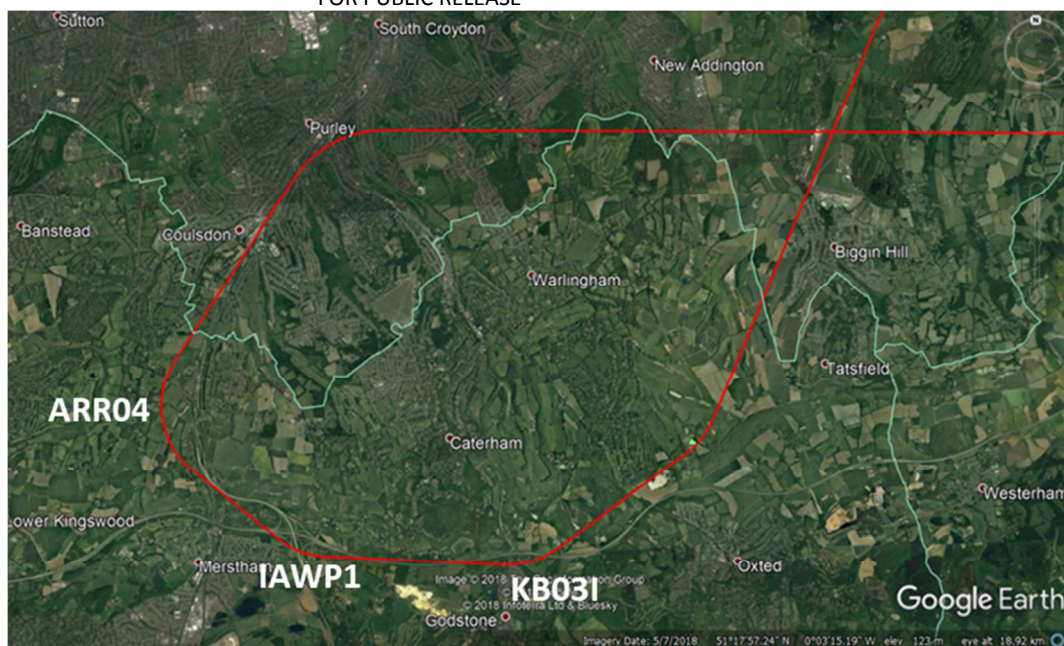


Figure 4 – Final Proposed IAP Design Routing (Western Portion)

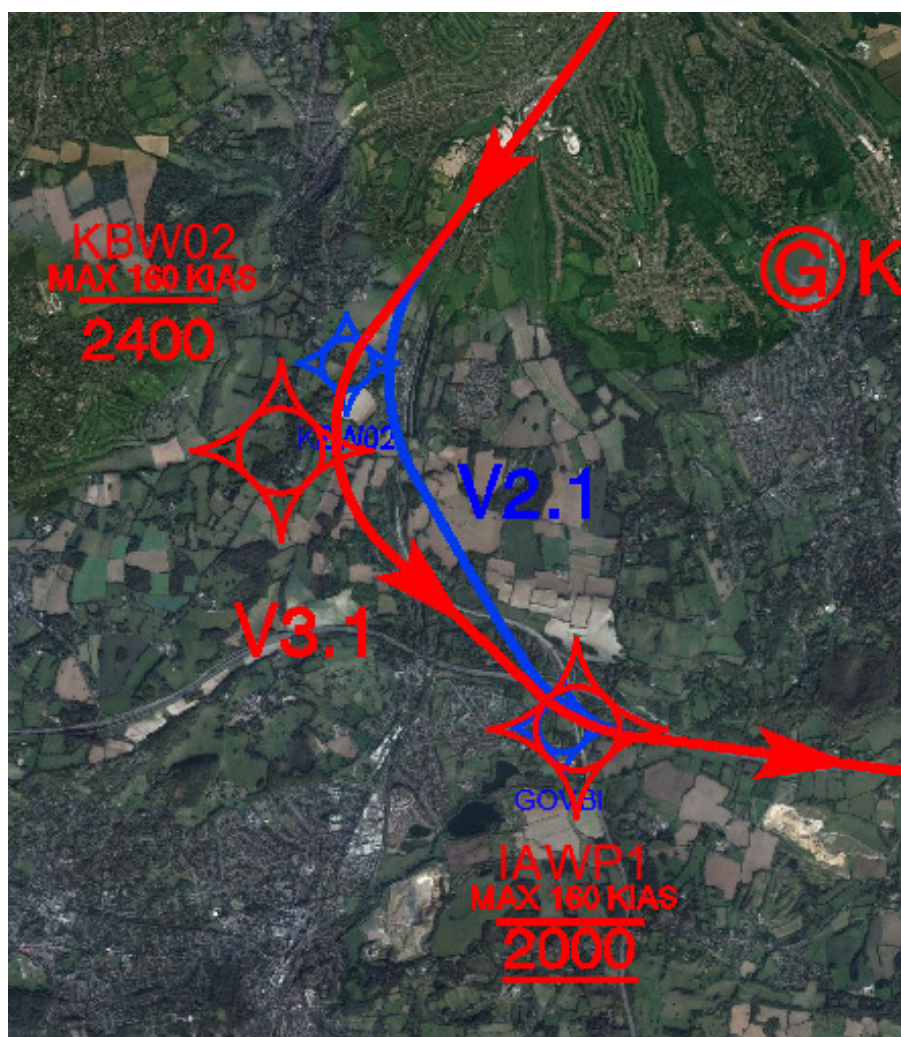


Figure 5 – Final Proposed Procedure (red) Compared to the Revised Procedure (blue)



In Figure 5, the routing of the final proposed routing IAP is indicated in red, and is compared against the routing of the revised configuration of the procedure (shown in blue) that was shared with stakeholders during the second round of consultation, carried out between 27 February 2017 and 10 April 2017, and described in paragraph 2.4 above.

The draft procedure for the proposed design is shown at Appendix [A1](#).

2.6 Conclusion

LBHA submitted its Airspace Change proposal, with the amendments made to the procedure design as described above, to the CAA in May 2017. The introduction of this new procedure will represent a substantial benefit to sustainable all-weather operations at LBHA to meet the increasing demand from its customer operators. In particular, it would offer improved aircraft operating efficiencies, as well as accruing safety benefits through improved stability in the approach, and environmental benefits by enabling more efficient approach profiles to be flown.

The background to both the Sponsor Consultation and Supplementary Consultation and the methodology used, plus the detailed reports from each consultation period, can be found on the CAA website by following the following link:

<https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/Biggin-Hill-Runway-03-instrument-approaches/>

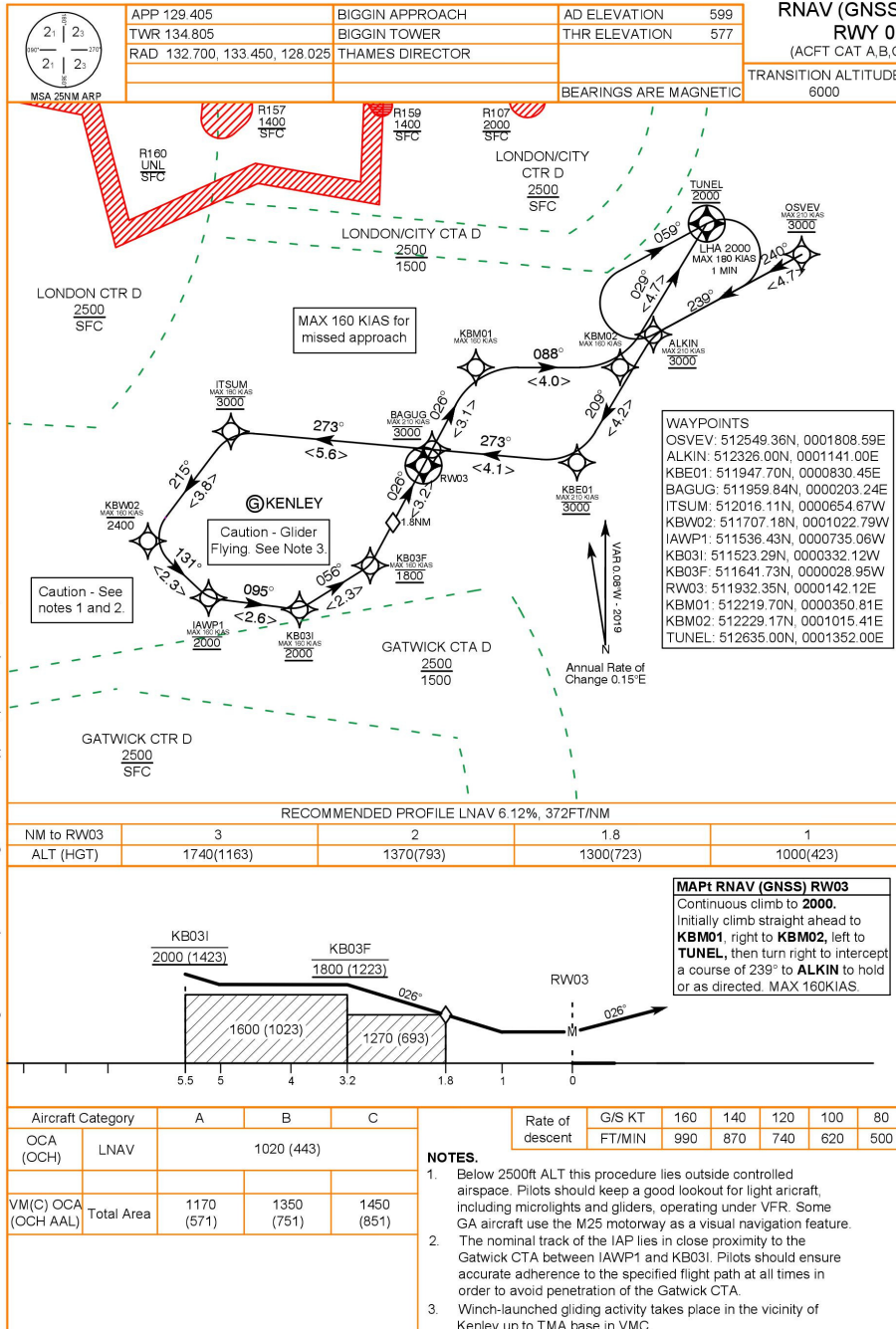
A1 The Proposed IAP Design

A1.1 Biggin Hill RNAV GNSS Runway 03 Draft Procedure

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INSTRUMENT APPROACH CHART - ICAO

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