[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:04
To: [redacted]
Subject: RE: [EXTERNAL] NEW INSTRUMENT APPROACH AT BIGGIN HILL
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

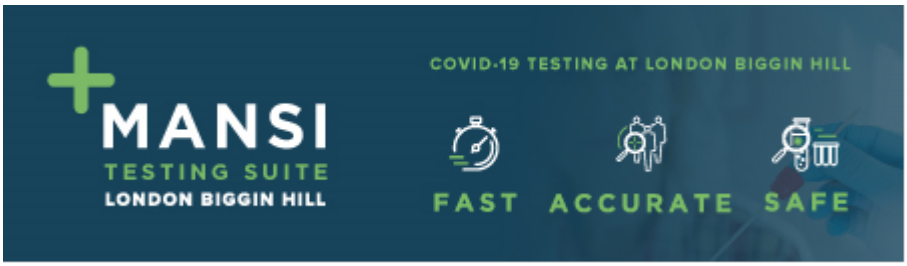
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 1
To: [redacted]

Cc: [redacted]
Subject: RE: [EXTERNAL] NEW INSTRUMENT APPROACH AT BIGGIN HILL

Hi [redacted]

Please forgive the late response, unfortunately I was on a flying Tour previously and other priorities, even in these strange times, meant this is the first opportunity I have to review your document. I am one of the Company Pilots (Challenger 350) who also fulfils an additional role as a Operations, Regulatory and Technical Support Officer for the company. I also have had the opportunity to fly into Biggin Hill on many occasions and also to review any issues, from time to time, as they arise with other crew utilising Biggin Hill.

I have reviewed the document, specifically the Core Design Principles and priorities from an external assessor's and operator's viewpoint. We at Netjets are in agreement with the ranking you have given. I have the following minor view which I offer for discussion ONLY.

Principles D and F.
We at NetJets are also working closely with other European Airport and National Authorities designing RNP approaches purely for environmental concerns- mostly noise pollution and impact on the local populace. Here, we see that RNP approaches offer a unique opportunity to allow specific tracks and approach paths (however, I suspect you are not yet ready to develop RNP AR with RF legs!) So I would argue D (Environmental) should be Core and F (Replication) could be considered Desirable, especially if a divergence from Replication offers a new track which has the opportunity to overfly lower population density areas. By making Environmental Concerns a core principle you may be better able to future-proof what is an area which will only grow in importance.

That is it! Please feel free to contact us again at the Ops Technical Address above should you require any clarification or additional comment,

Best Regards,

[redacted]
Regulatory & Technical Department

E. [redacted]
M. [redacted]
netjets.com

NETJETS

From: [redacted]
Se [redacted]
Subject: RE: [EXTERNAL] NEW INSTRUMENT APPROACH AT BIGGIN HILL

Good morning [redacted]

[redacted] spoke with me and she has relayed all the information to us.
We will be the most appropriate point of contact for these matters and will be working on providing the feedback you are after.
I see the deadline is **13NOV2020**, which I believe won't be an issue for us.

All the best,

[redacted]

E. [redacted]
T. [redacted]
M. [redacted]
netjets.com

NETJETS

From: [redacted]
Sent: 27 October 2020 08:07
To: [redacted]
Subject: FW: [EXTERNAL] NEW INSTRUMENT APPROACH AT BIGGIN HILL

EJM [redacted]

From: [redacted]
Sent: 27 October 2020 08:00
To: [redacted]
Subject: [EXTERNAL] NEW INSTRUMENT APPROACH AT BIGGIN HILL

Good Morning [redacted]

We have just commenced an Airspace Change, as required by the UK CAA, to introduce a new procedure to London Biggin Hill Airport – see attached PDF. I have sent information through your website contact address, but I wanted to be sure that the information was received by the best person at NETJETS to provide a suitable response. Please could you pass this information on to the best person within NETJETS to respond to our Engagement regarding this new procedure.

Regards,

[redacted]

LONDON BIGGIN HILL AIRPORT

[redacted]

W: bigginhillairport.com

Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:06
To: [redacted]
Subject: RE: Biggin Hill - our response
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

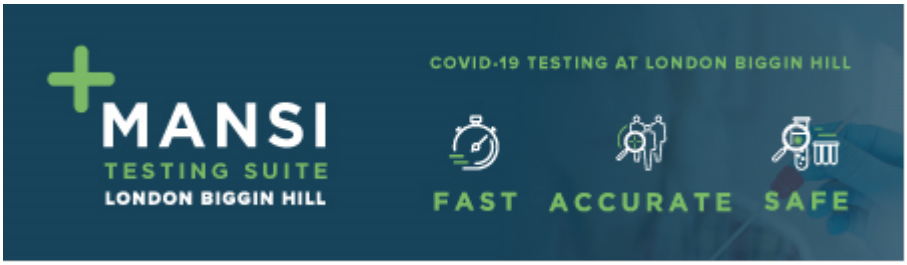
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 13 November 2020 11:36
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Subject: Re: Biggin Hill - our response

Dear Sirs

Thank you for including Westerham Town Council in the engagement exercise on the proposed changes to Instrument approach procedure as set out under the proposed change: ACP-2019-86.
Our response on the Design Principles priorities is set out below. It is driven by the views of our community which lies on the edges of the Gatwick CTA, under the SE stack for Heathrow, and which, while appreciating the need and indeed the benefit of technology changes, would resist vigorously any increase in current (pre- pandemic) disturbance levels. Over the years the number of flights crossing Westerham has increased as has the associated noise and disturbance. While Westerham appreciates the business that the airport can bring to the area, and would look to support the business in general, we would not support any proposals that would look to increase the number of flights crossing Westerham, would increase the size of aircraft crossing or tracking near to Westerham, or would cause aircraft to track or cross Westerham at lower altitudes.

We look forward to taking part in further stages of this exercise.

Order of priority	**Draft Design principle**		**Category**	**Reason for priority order**
1	A : SAFETY – new routes must be safe	Core	Safety	Key underlying principle for all aviation issues
2	B: COMPLIANCE – route should where possible, be designed to be PAN OPS compliant	Core	Technical	Key to adopting new system
3	C: NAVIGATION STANDARDS - new routes must be designed to use PBN	Core	Operational	Purpose of making change
4	F: REPLICATION: Procedure should be designed to mimic existing procedure where possible, whilst meeting the requirements of DP2 & 3. This will minimise the requirement to overfly areas not previously overflown by aircraft making an ILS approach	Core	Environmental	Position of Westerham on the edge of Gatwick CTA and under Heathrow SE stack cannot accept further noise disturbance
5	D: ENVIRONMENTAL CONCERNS – arrival routes should where possible be designed to minimise the impact of noise below 7,000ft and should avoid the overflight of populations not previously overflown.	Desirable??	Environmental	Position of Westerham on the edge of Gatwick CTA and under Heathrow SE stack cannot accept further noise disturbance
6	E: EFFICIENT ROUTES: arrival routes should where possible, be designed to minimise emissions and optimise operational efficiencies	Desirable	Environmental	

Kind regards

[redacted]

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:07
To: [redacted]
Subject: RE: Feedback on Draft Design Principles - ACP-2019-86
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

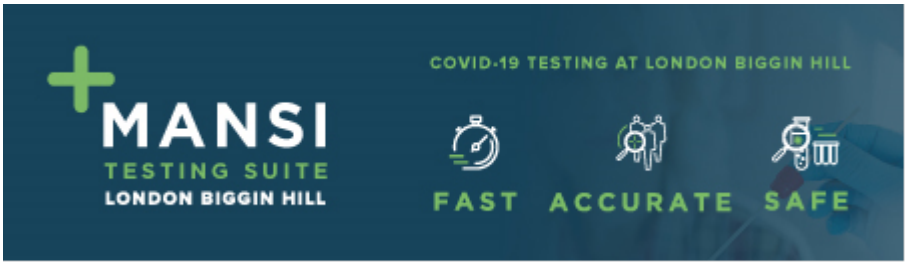
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 11 November 2020 11:57
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

Cc: [redacted]
Subject: Feedback on Draft Design Principles - ACP-2019-86

Good Morning

Please see the NATS NERL feedback on the draft design principles for ACP-2019-86

Draft Design Principle	NATS NERL Feedback	Priority Order
A	Add the following text to the design principle: "Must not erode existing 'safety barriers' that are in place with adjacent ANSPs."	1
B	No Comment	6
C	No Comment	5
D	No Comment	4
E	No Comment	3
F	Add the following text to the design principle: "The design must enable existing ATC Procedures to be maintained with adjacent ANSPs. This must include tactical and flexible positioning of aircraft. It must not add to or increase the complexity and workload of adjacent ANSPs."	2

Regards

[redacted]

NATS

[redacted]

NATS PRIVATE

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:06
To: [redacted]
Subject: RE: Heathrow Airport Response to Design Principle engagement - RNAV App Runway 21
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

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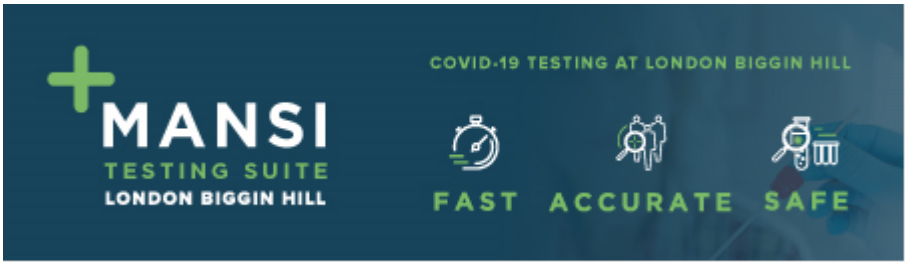


Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 13 November 2020 12:25
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Cc: [redacted]
Subject: Heathrow Airport Response to Design Principle engagement - RNAV App Runway 21

Classification: Public

Dear Sir/Madam

Please find attached the Heathrow Airport response to your recent engagement letter regarding the Design Principles associated with the proposed RNAV App Runway 21.

If you have any queries, please do not hesitate to contact us.

Regards

[redacted]

Heathrow
Making every journey better

Heathrow Airport
The Compass Centre, Nelson Road
Hounslow, Middlesex, TW6 2GW

m: [redacted]
w: heathrow.com t: twitter.com/heathrowairport
a: heathrow.com/apps

ASQ 2016 WINNER — Best Airport in Western Europe | World's Best Airport for Shopping | The World's Top 10 Best Airports

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:11
To: [redacted]
Subject: RE: Mailchimp Enquiry
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

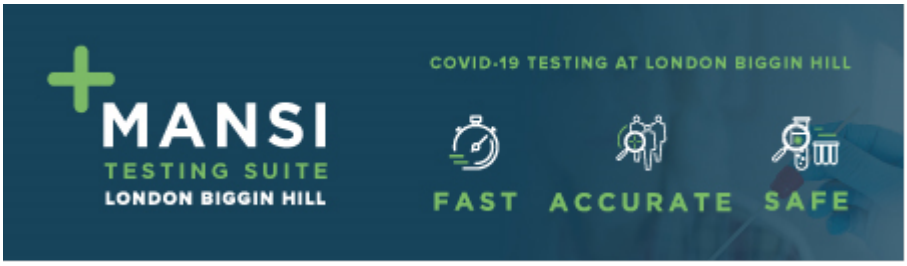
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 08 November 2020 12:19
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Subject: Mailchimp Enquiry

Draft Design Principle.

In Order of Priority:

1. D. Environmental Concerns.
   Move from Desirable to Core.

2. E. Efficient Routes.
   Move to Core.

Retain the present "funnel" from Bexley, Petts Wood and Crofton; avoid minimising it further which would inflict more noise and visual impact by the landing flights to R21 on those residents already adversely affected.

Fly higher for longer. City Airport manage steep ascents/decents so BHAL could do also.

Regards,

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:17
To: [redacted]
Subject: RE: Mailchimp Enquiry
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

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Regards,

London Biggin Hill Airport Airspace Team

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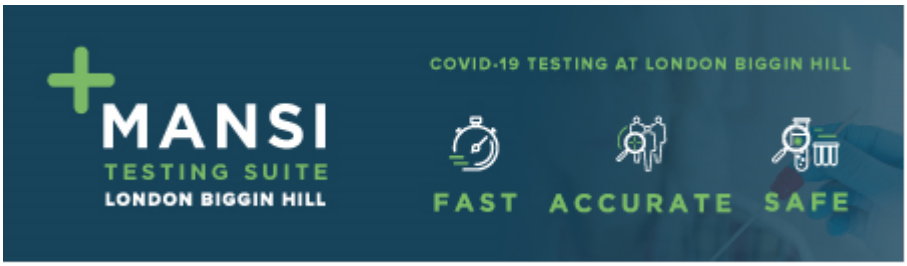


Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 26 October 2020 17:13
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

Cc: [redacted]
Subject: Mailchimp Enquiry

Hi,

I reply in the double capacity of representing PPL/IR Europe and also as a Biggin based Instrument pilot ([redacted]. (I am also co-author of the PBN Manual, which is widely used in Europe as the theoretical basis for PBN knowledge and understanding.)

In both capacities, we agree that A, B and C are in the correct order. We would then place E next, with D at the end.

So:
1 A
2 B
3 C
4 E
5 D

From an operational point of view, we do not think that F should be on the list (though we do understand why it might be expedient.)

The main reason for eliminating F is that the procedural approach is barely ever used (I have been operating from Biggin since 1985, and I can't remember using it since the mid 90s) so most users (pilots, ATCOs) will only be familiar with it in theory, and local residents will be completely unaware of it. Thus changing it will have no impact.

Accordingly, if the RNP approach is to be introduced, the Initial and Intermediate segments should match PANS OPS standards (ie a T or, more likely, L shape). In practice, this will make little difference, as Thames will still mainly radar vector, but the idea of RNP approaches is that more aircraft are expected to be cleared for the procedure, being less reliant on vectoring, and if that happens it should be a familiar shape.

If it is decided that the current DME Arc is replicated, a decision will have to be taken as to whether a RTF leg is used, or one or more straight line. While the RTF option would be obvious and attractive, it should be borne in mind that many GNSS navigators in widespread use do not support RTF legs. This is true of Garmin GNS models (still the most widespread in light singles and twins) and, when I last looked, Avidyne IFD. That means that a large proportion of light aircraft (up to turboprop twins) would not see the procedure, only the final track. This is true of the 21 ILS overlay procedure at Lydd, for example, which contains a DME Arc.

The same considerations must be applied to the right turn back to the overhead in the MA. This might better be designed as a right turn DCT ALKIN, or a number of straight legs towards TUNEL, as an RTF leg will mean the whole procedure doesn't appear in a lot of navigators.

I hope that this is the kind of feedback you wanted. Please call me if I can be of further help.

[redacted]

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:17
To: [redacted]
Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

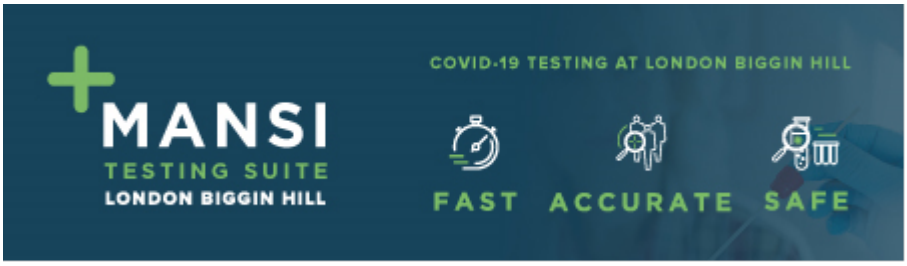
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 26 October 2020 17:09
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Subject: Re: NEW INSTRUMENT APPROACH PROCEDURE

Hi

This is rather complex to understand but I believe you are asking for my feedback even though feedback comes later in the process.

I understand you want me to rank the design principles from my point of view.
See below with 1 being the most important.

1 Safety
2 environmental concerns (noise and overflight over woldingham especially)
3 efficient routes
4 replication
5 compliance
6 navigation standards

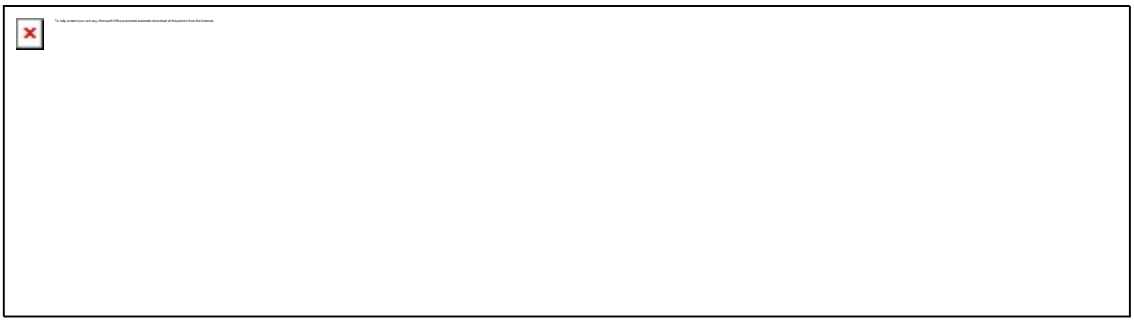
This is from the point of view as a local resident and without knowing the details about the technical or regulatory aspects.

Regards

[redacted]

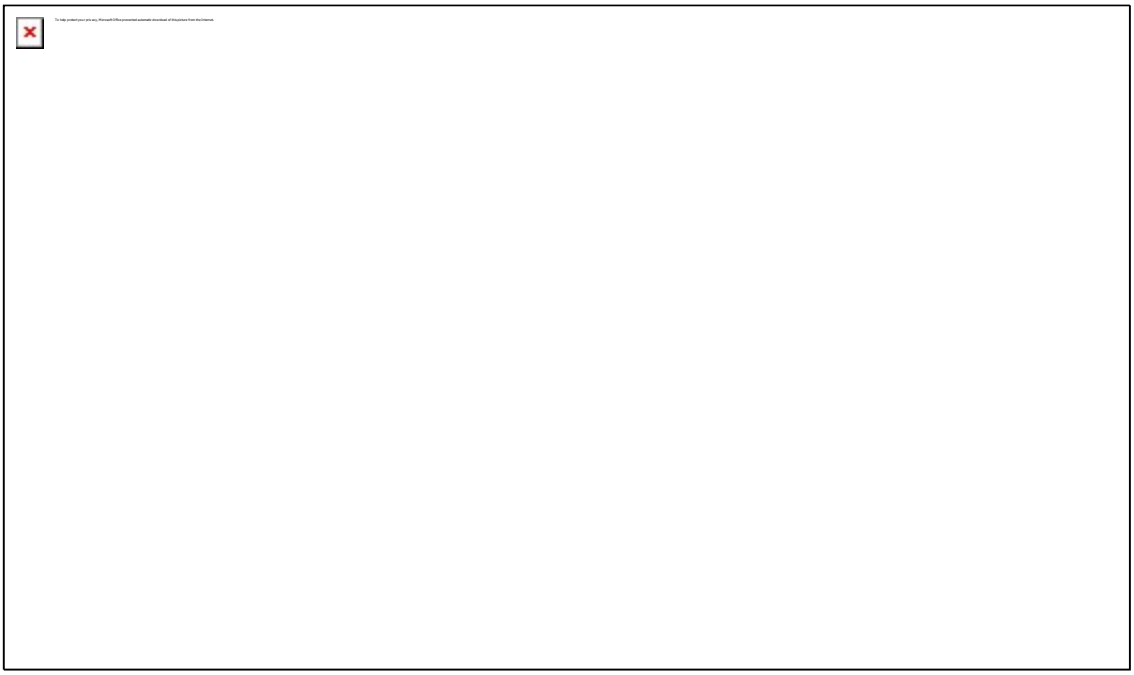
On 26 Oct 2020, at 16:11, London Biggin Hill Airport <21RNAVACP@bigginhillairport.com> wrote:

View this email in your browser



AIRSPACE CHANGE

NEW INSTRUMENT APPROACH PROCEDURE



London Biggin Hill Airport (LBHA) has embarked on a process to change the airspace arrangements around the airport. This process is known as an Airspace Change Process (ACP). The process requires active engagement with our stakeholders throughout, and this webpage has been developed to help this process. It contains relevant information which will help stakeholders as we actively seek your feedback, positive and negative.

Background

This Airspace Change is titled RNAV (GNSS) Runway 21 and has been allocated the reference ACP-2019-86 by the CAA. Details can be viewed on the CAA Airspace Change Portal: https://airspacechange.caa.co.uk/

This change process has been started for 2 reasons:

- It is a requirement in order to be compliant with EASA Regulatory requirements detailed within IR (EU) 20 18/10 48, and in doing so, will meet the requirements within the CAA Airspace Modernisation Strategy.

- If successful, it will also add a layer of resilience to the airport operation by providing a second instrument approach in the event that the current procedure is unavailable.

We are progressing this change in accordance with the formal guidance from the CAA detailed in CAP 1616. The process consists of 7 stages as shown below; we have completed Step 1A and we are currently in Stage 1, at Step 1B.

Visit the CAA Airspace Change Portal

Figure 1 Overview of the airspace change process

How can you help?

In Step 1B, the CAA requires us to develop a set of Design Principles, which will inform the design of the new arrival route that aircraft can chose to utilise to make an approach to Runway 21. CAP 1616 states that it is important for Design Principles to be drawn up through discussion between the Change

Sponsor (in this case – LBHA) and potentially affected stakeholders at the early stages of the airspace change process. We understand that everyone has their own perspective about what is important, and therefore we have started the process of engagement with our stakeholders. The aim of this engagement is to ensure that LBHA has a good level of understanding of the design considerations that are important to all our stakeholders; this includes aviation and non-aviation stakeholders.

General Information

To explain this change in more detail it is necessary to use some aviation terminology. We have provided some facts and explanations below which we hope are useful.

- Runways at LBHA

We have 2 runways – Runway 21 and Runway 03. Runway 21 is an Instrument Runway which means that we have a procedure associated with the runway which provides Approach information in less than ideal weather conditions. Runway 03 is a visual runway, with no associated approach aids or procedures at the moment. When choosing which runway to use, the direction of the wind is important. For safety and performance reasons aircraft typically take off and land into wind. In the UK, the wind is mostly from the south-west, this means that the majority of aircraft come into land from the north-east, which means that Runway 21 is the most used runway at LBHA.

- What is an Instrument Landing System (ILS)?

The ILS is navigational aid that uses radar to guide aircraft on to a final approach, normally within 8 – 10 miles from touchdown. The point at which an aircraft joins the final approach varies due to conditions on the day and or vectoring by the controllers. Aircraft will then utilise the ILS which transmits two radio beams to provide pilots with vertical and horizontal guidance during the final approach to landing. Pilots interpret instruments in the cockpit which

receive the information from the radar beams, and are guided to the runway, following a 3-degree approach angle.

- What is RNAV/GNSS?

These terms both fall under another term known as PBN - Performance Based Navigation (PBN). This is the key to achieving airspace modernisation as it improves accuracy of where aircraft fly by moving away from outdated and conventional navigation using ground-based beacons, such as the ILS, to modern satellite navigation. This is similar to the sat navs that most people have in their cars today. PBN is being introduced across the world. The new technology allows more flexible positioning of routes and enables aircraft to fly them more accurately. This helps improve operational performance and reduce delays. LBHA needs to introduce PBN to comply with EASA Regulatory requirements detailed within IR (EU) 20 18/10 48 and to meet our commitments to the Government's Airspace Modernisation Strategy. For more information on PBN you may like to read the CAA's document on "Airspace Design Guidance: Noise mitigation consideration when designing PBN departure and arrival routes" known as CAP 1378, available through the CAA website https://www.caa.co.uk/Our-work/Publications/Publications/

- What is a Missed Approach Procedure?

Occasionally it is necessary for the pilot of an aircraft to abort a landing. There is an established procedure to follow when this occurs that is known as a Missed Approach or a go-around. This is where the pilot aborts the landing and then re-joins the landing pattern. It is a well-practiced and safe procedure which pilots and air traffic controllers are trained and prepared for. Although there are many reasons for a go-around they can often be caused by periods of strong winds and adverse weather.

Specific Information

When Runway 21 is the landing runway, most aircraft make an approach to

land using the existing Instrument Landing System (ILS). Figure 2 below shows the procedure routing for the ILS/DME Instrument Approach to Runway 21: the full blue line shows the arrival route from 3000ft to just above touchdown on the runway and the dotted blue line shows a rarely used procedure called the Missed Approach which is used when a landing has not been possible, and a second attempt at an ILS approach will be required.

Please note:

- When aircraft fly this ILS approach today, they DO NOT follow the lines depicted exactly, they can be “on track” and flying in accordance with the procedure but be in a swathe around the blue lines shown below.
- Aircraft can be vectored by air traffic control to maintain safety; this will not change.
- We have no plans to change any routes above 3000ft
- At this stage of the process we believe that any change over the ground will be minimal

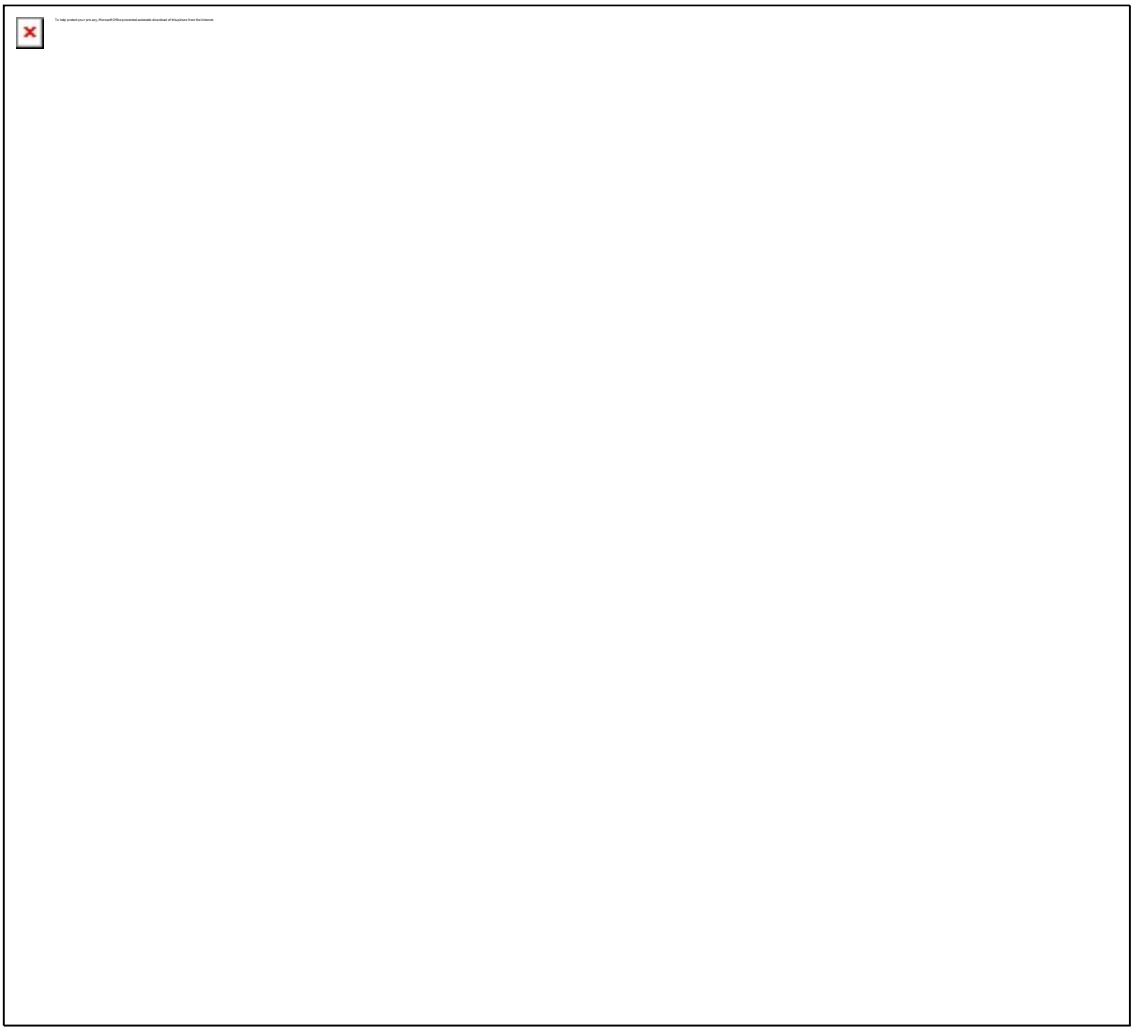


Figure 2 – Runway 21 ILS and Missed Approach Procedure

Figure 3 below shows the current Instrument Approach chart for the ILS/DME procedure.

Figure 3 – Runway 21 Instrument Approach Chart ILS/DME/VOR Runway 21

Draft Design Principles

To help begin this engagement we have developed the following set of draft design principles. You may wish to see design principles that have been developed in other ACPs, if so please visit the CAA Airspace Change Portal https://airspacechange.caa.co.uk/

We believe that these design principles provide a balance between what is required to fulfil the scope of this project and the environmental concerns that any change brings. For instance, Design Principle D will support the development of options that relate to keeping aircraft higher for longer, continuous descent profiles and possible increased glideslopes as these characteristics help us to minimise aircraft noise.

Visit the CAA Airspace Change Portal

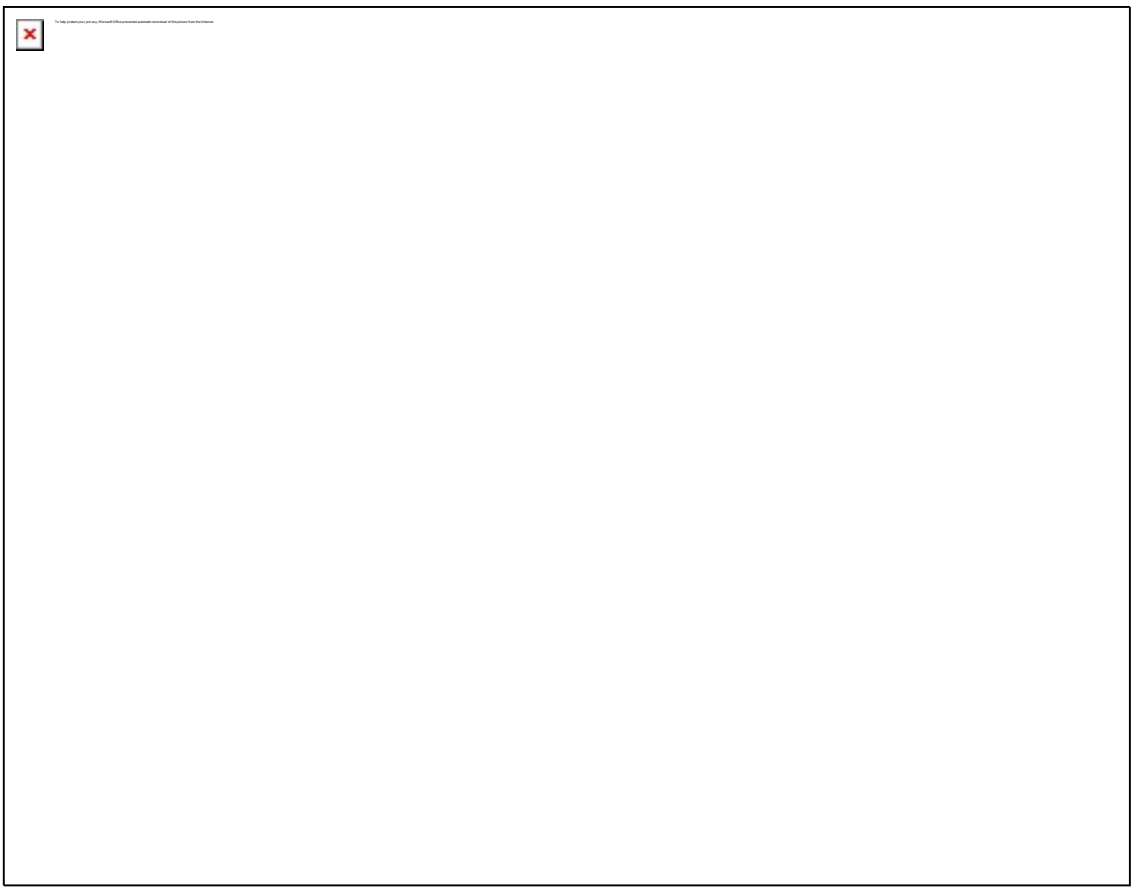


Figure 4 Draft Design Principles

To assist with further development of the design principles, LBHA requests comment and feedback, positive or negative from our stakeholders, both aviation and non-aviation.

Identification of Stakeholders

To enable us to identify the relevant stakeholders for this airspace change, we have established a geographical Stakeholder Area based on the Statement of Need, the current surrounding airspace construct that we will work with, and the expertise of procedure designers providing the widest possible proposed area. The Red circle indicates the geographical area which will be the focus of our initial engagement.

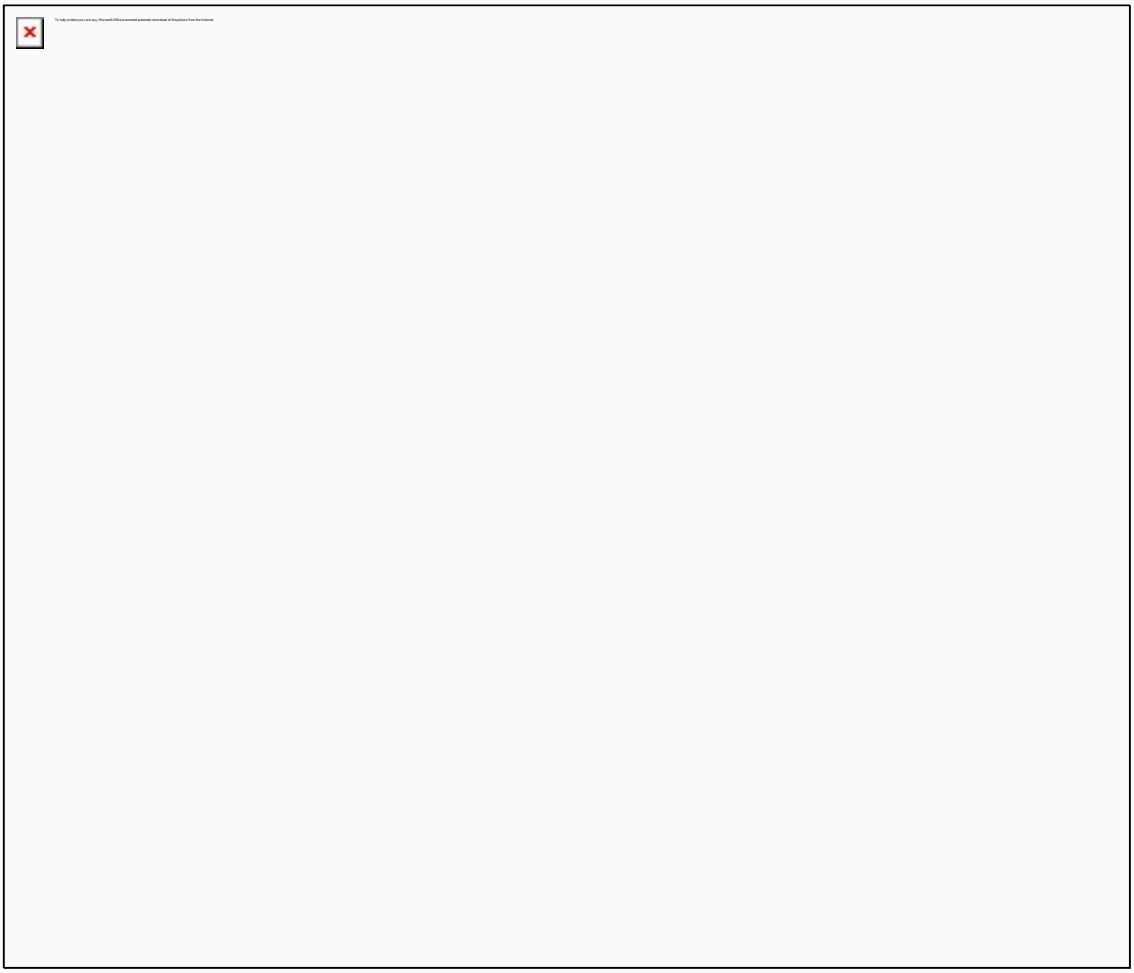


Figure 4 – Geographical Engagement Area (Surrounded by RED boundary)

Non-aviation stakeholders include Local Government Authorities, Members of Parliament, members of the airport's consultative committee, national organisations and local resident associations and individuals.
The aviation stakeholders include local Airlines, the local General Aviation (GA) community, airport operators and air navigation service providers (ANSP) and members of the National Air Traffic Management Advisory Committee (NATMAC). As part of the CAP 1616 process we have to maintain a record of contact with all our stakeholders.

Please note that this engagement is not the formal consultation.
The formal consultation comes at Stage 3 (see figure 1).

Your Feedback

We ask that you consider our draft design principles and rank them in priority order, with 1 being the highest priority and therefore the most important to you.
Additionally, you may like to tell us why you disagree with any of the principles, or you may wish to suggest changes or describe new principles that we should consider. Please also advise us of any other issue or constraint you feel should be considered in our design process. We welcome your feedback

Please complete this and return it to us by **13th November 2020.** If you feel that you require more time to provide feedback, please advise via email at 21RNAVACP@bigginhillairport.com at the earliest opportunity.

Unfortunately, due to the current CoVID 19 restrictions we are unable to hold any face to face meetings. But please contact us at 21RNAVACP@bigginhillairport.com if you require clarification of either the design principles or the process, and we will be in touch.

Next Steps

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Biggin Hill Airport · · Main Road, Biggin Hill Airport, Biggin Hill · Westerham, Kent TN16 3BH · United Kingdom

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:12
To: [redacted]
Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon [redacted]

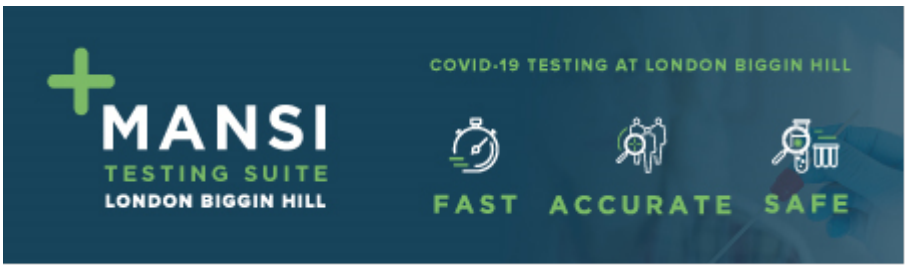
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON
BIGGIN HILL
AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 07 November 2020 13:43

To: [redacted]
Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE

Hi [redacted]

Is an email sufficient or do I need to provide feedback elsewhere?

I am assuming you only need me to comment on your draft design principles and rank them in priority.

Please accept this response on behalf of RAF Kenley; please note this **IS NOT** an official/formal response from the MOD as a whole, as that will come from Defence Airspace and Air Traffic Management (DAATM) at the appropriate point.

Our priority of your design principles would mirror the exact order of which you have listed them, ie your principle A would be our priority 1, and principle F would be priority 6.

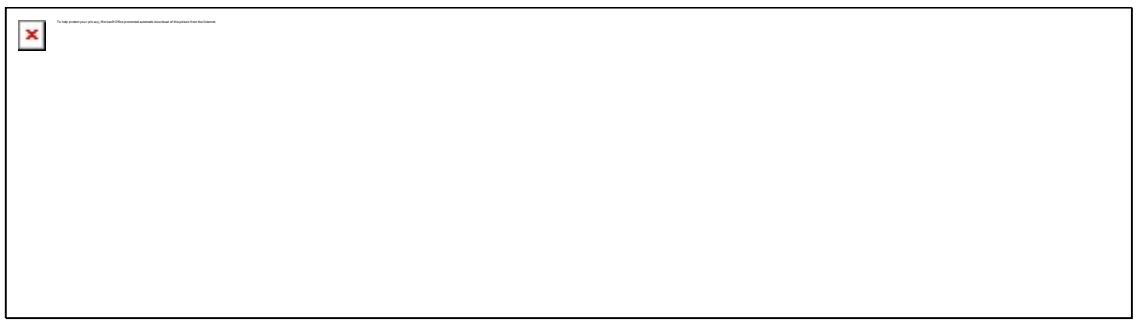
Regards

[redacted]

[redacted]

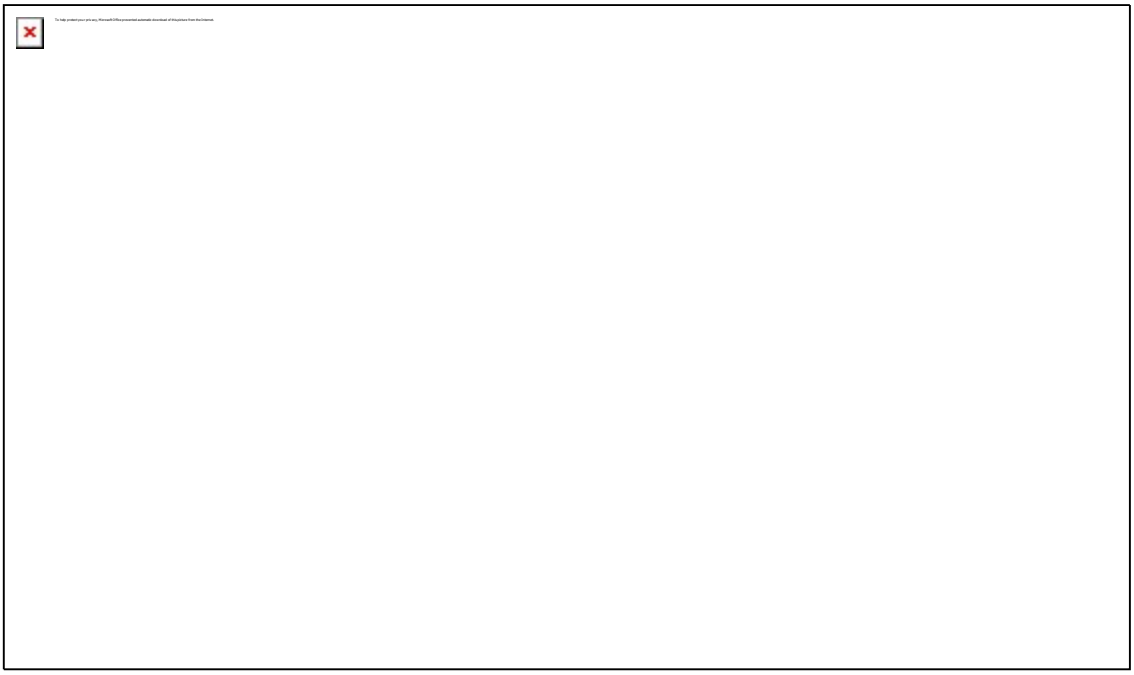
From: [redacted]
Sent: 06 November 2020 17:11
To: [redacted]
Subject: NEW INSTRUMENT APPROACH PROCEDURE

View this email in your browser



AIRSPACE CHANGE

NEW INSTRUMENT APPROACH PROCEDURE



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as we actively seek your feedback, positive and negative.

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This Airspace Change is titled RNAV (GNSS) Runway 21 and has been allocated the reference ACP-2019-86 by the CAA. Details can be viewed on the CAA Airspace Change Portal: https://airspacechange.caa.co.uk/

This change process has been started for 2 reasons:

- It is a requirement in order to be compliant with EASA Regulatory requirements detailed within IR (EU) 20 18/10 48, and in doing so, will meet the requirements within the CAA Airspace Modernisation Strategy.
- If successful, it will also add a layer of resilience to the airport operation by providing a second instrument approach in the event that the current procedure is unavailable.

We are progressing this change in accordance with the formal guidance from the CAA detailed in CAP 1616. The process consists of 7 stages as shown below; we have completed Step 1A and we are currently in Stage 1, at Step 1B.

Visit the CAA Airspace Change Portal

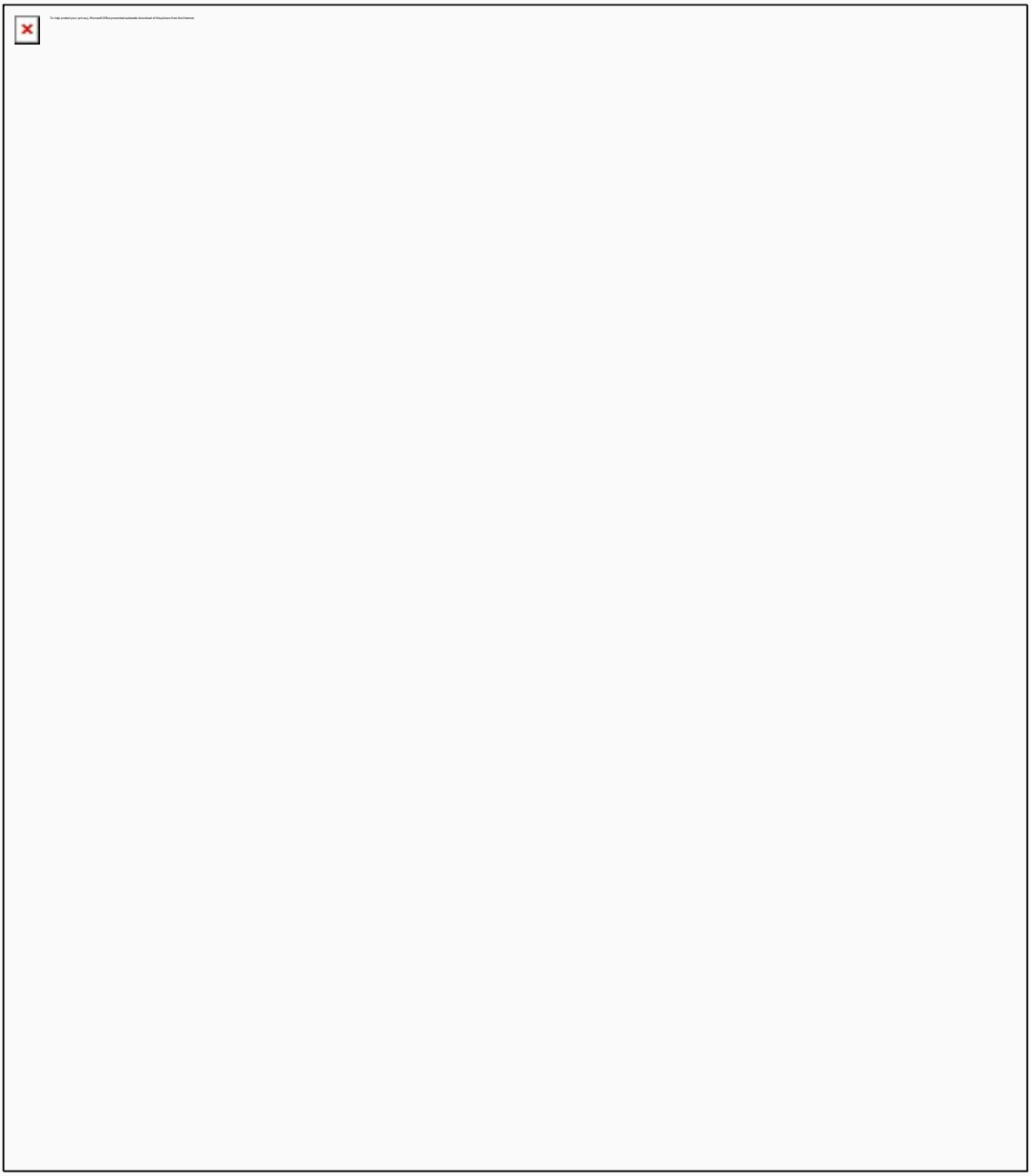

Figure 1 Overview of the airspace change process

How can you help?

In Step 1B, the CAA requires us to develop a set of Design Principles, which will inform the design of the new arrival route that aircraft can chose to utilise to make an approach to Runway 21. CAP 1616 states that it is important for Design Principles to be drawn up through discussion between the Change Sponsor (in this case – LBHA) and potentially affected stakeholders at the early stages of the airspace change process. We understand that everyone has their own perspective about what is important, and therefore we have started the process of engagement with our

stakeholders. The aim of this engagement is to ensure that LBHA has a good level of understanding of the design considerations that are important to all our stakeholders; this includes aviation and non-aviation stakeholders.

General Information

To explain this change in more detail it is necessary to use some aviation terminology. We have provided some facts and explanations below which we hope are useful.

- Runways at LBHA

We have 2 runways – Runway 21 and Runway 03. Runway 21 is an Instrument Runway which means that we have a procedure associated with the runway which provides Approach information in less than ideal weather conditions. Runway 03 is a visual runway, with no associated approach aids or procedures at the moment. When choosing which runway to use, the direction of the wind is important. For safety and performance reasons aircraft typically take off and land into wind. In the UK, the wind is mostly from the south-west, this means that the majority of aircraft come into land from the north-east, which means that Runway 21 is the most used runway at LBHA.

- What is an Instrument Landing System (ILS)?

The ILS is navigational aid that uses radar to guide aircraft on to a final approach, normally within 8 – 10 miles from touchdown. The point at which an aircraft joins the final approach varies due to conditions on the day and or vectoring by the controllers. Aircraft will then utilise the ILS which transmits two radio beams to provide pilots with vertical and horizontal guidance during the final approach to landing. Pilots interpret instruments in the cockpit which receive the information from the radar beams, and are guided to the runway, following a 3-degree approach angle.

- What is RNAV/GNSS?

These terms both fall under another term known as PBN - Performance Based Navigation (PBN). This is the key to achieving airspace modernisation as it improves accuracy of where aircraft fly by moving away from outdated and conventional navigation using ground-based beacons, such as the ILS, to modern satellite navigation. This is similar to the sat navs that most people have in their cars today. PBN is being introduced across the world. The new technology allows more flexible positioning of routes and enables aircraft to fly them more accurately. This helps improve operational performance and reduce delays. LBHA needs to introduce PBN to comply with EASA Regulatory requirements detailed within IR (EU) 20 18/10 48 and to meet our commitments to the Government's Airspace Modernisation Strategy. For more information on PBN you may like to read the CAA's document on "Airspace Design Guidance: Noise mitigation consideration when designing PBN

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Occasionally it is necessary for the pilot of an aircraft to abort a landing. There is an established procedure to follow when this occurs that is known as a Missed Approach or a go-around. This is where the pilot aborts the landing and then re-joins the landing pattern. It is a well-practiced and safe procedure which pilots and air traffic controllers are trained and prepared for. Although there are many reasons for a go-around they can often be caused by periods of strong winds and adverse weather.

Specific Information

When Runway 21 is the landing runway, most aircraft make an approach to land using the existing Instrument Landing System (ILS). Figure 2 below shows the procedure routing for the ILS/DME Instrument Approach to Runway 21: the full blue line shows the arrival route from 3000ft to just above touchdown on the runway and the dotted blue line shows a rarely used procedure called the Missed Approach which is used when a landing has not been possible, and a second attempt at an ILS approach will be required.

Please note:

- When aircraft fly this ILS approach today, they DO NOT follow the lines depicted exactly, they can be "on track" and flying in accordance with the procedure but be in a swathe around the blue lines shown below.
- Aircraft can be vectored by air traffic control to maintain safety; this will not change.
- We have no plans to change any routes above 3000ft
- At this stage of the process we believe that any change over the ground will be minimal

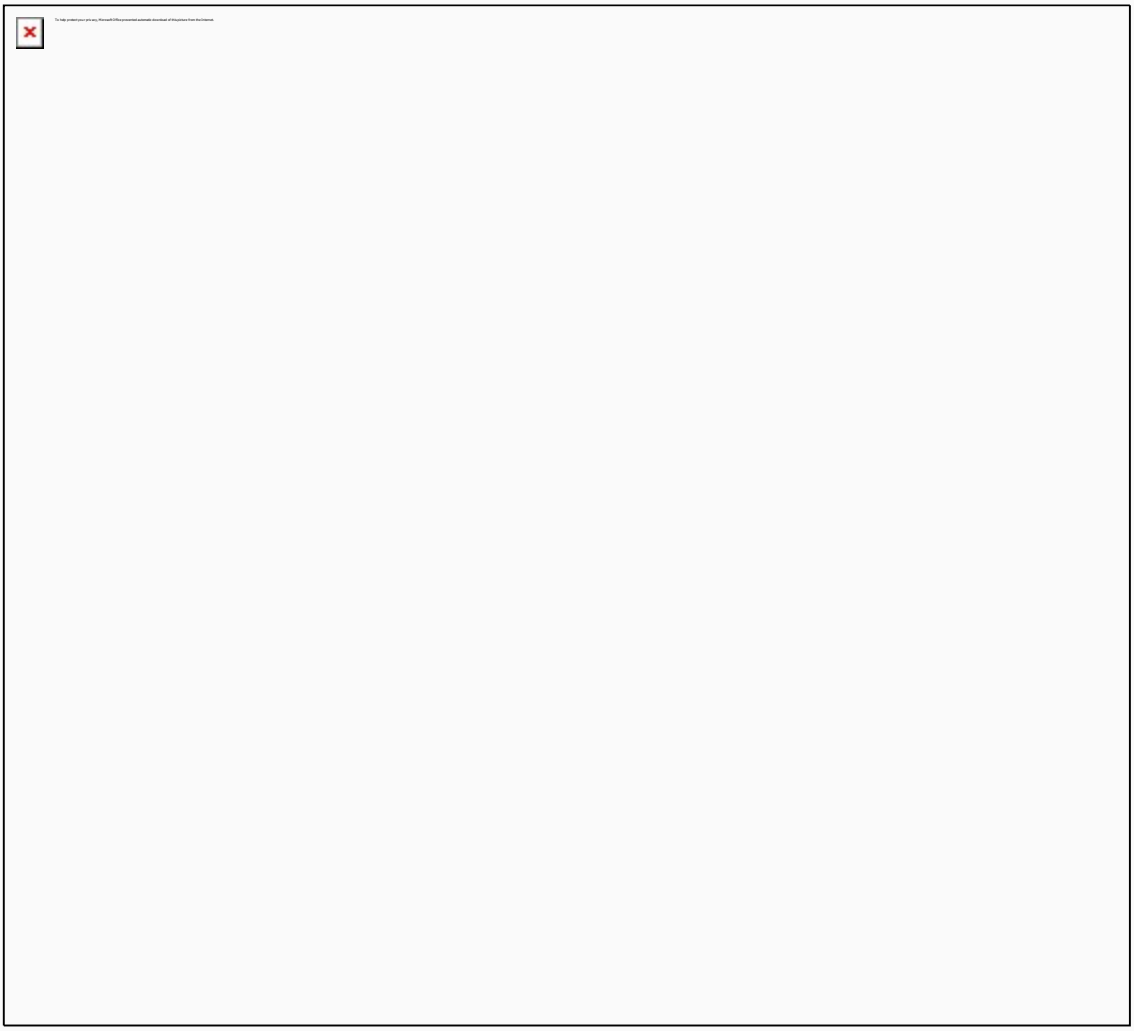

Figure 2 – Runway 21 ILS and Missed Approach Procedure

Figure 3 below shows the current Instrument Approach chart for the ILS/DME procedure.

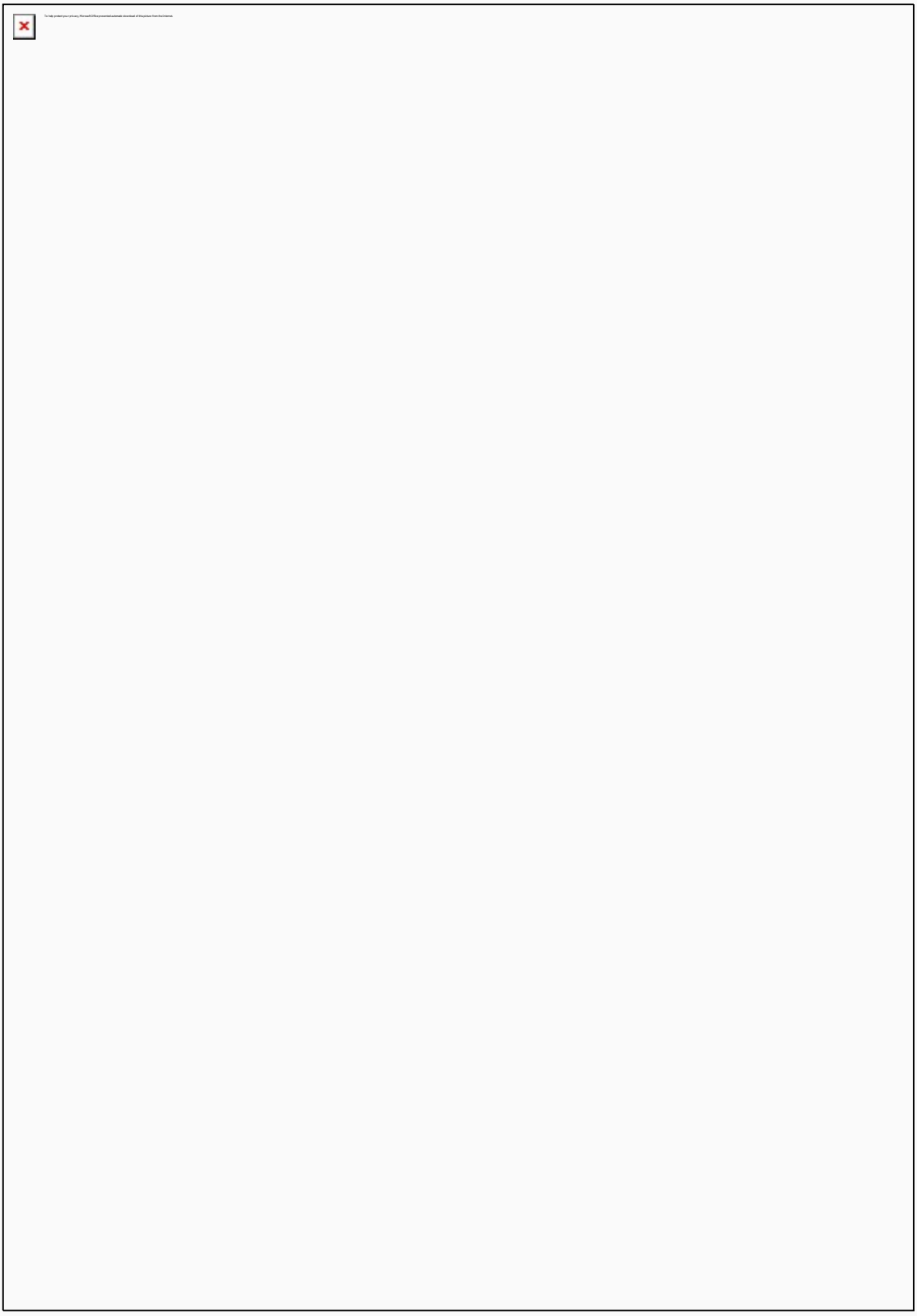

Figure 3 – Runway 21 Instrument Approach Chart ILS/DME/VOR Runway 21

Draft Design Principles

To help begin this engagement we have developed the following set of draft design principles. You may wish to see design principles that have been developed in other ACPs, if so please visit the CAA Airspace Change Portal https://airspacechange.caa.co.uk/

We believe that these design principles provide a balance between what is required to fulfil the scope of this project and the environmental concerns that any change brings. For instance, Design Principle D will support the development of options that relate to keeping aircraft higher for longer, continuous descent profiles and possible increased glideslopes as these characteristics help us to minimise aircraft noise.

Visit the CAA Airspace Change Portal

Figure 4 Draft Design Principles

To assist with further development of the design principles, LBHA requests comment and feedback, positive or negative from our stakeholders, both aviation and non-aviation.

Identification of Stakeholders

To enable us to identify the relevant stakeholders for this airspace change, we have established a geographical Stakeholder Area based on the Statement of

Need, the current surrounding airspace construct that we will work with, and the expertise of procedure designers providing the widest possible proposed area. The Red circle indicates the geographical area which will be the focus of our initial engagement.

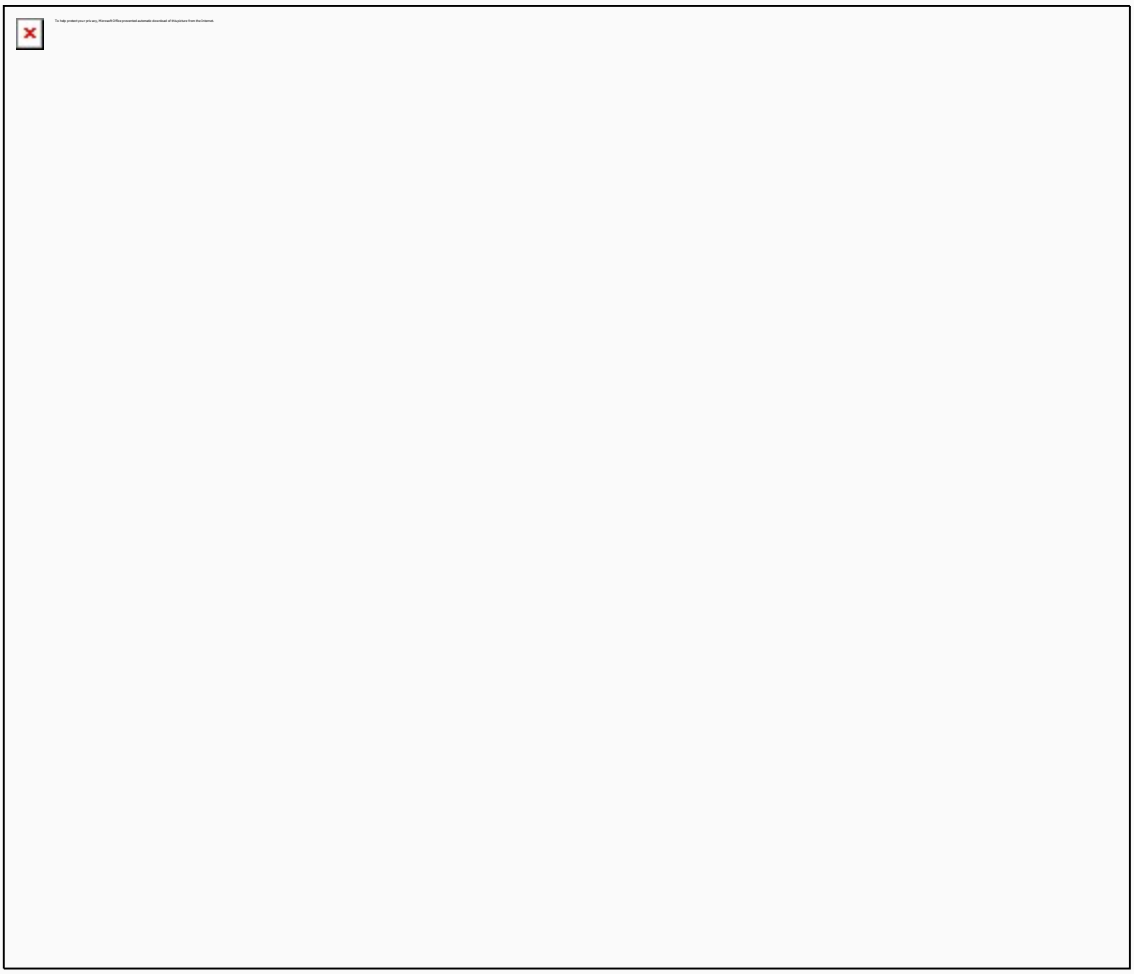

Figure 4 – Geographical Engagement Area (Surrounded by RED boundary)

The aviation stakeholders include local Airlines, the local General Aviation (GA) community, airport operators and air navigation service providers (ANSP) and

members of the National Air Traffic Management Advisory Committee (NATMAC). As part of the CAP 1616 process we have to maintain a record of contact with all our stakeholders.

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Please note that this engagement is not the formal consultation.

The formal consultation comes at Stage 3 (see figure 1).

Your Feedback

We ask that you consider our draft design principles and rank them in priority order, with 1 being the highest priority and therefore the most important to you.

Additionally, you may like to tell us why you disagree with any of the principles, or you may wish to suggest changes or describe new principles that we should consider. Please also advise us of any other issue or constraint you feel should be considered in our design process. We welcome your feedback

Please complete this and return it to us by **13th November 2020.** If you feel that you require more time to provide feedback, please advise via email at 21RNAVACP@bigginhillairport.com at the earliest opportunity.

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Biggin Hill Airport · · Main Road, Biggin Hill Airport, Biggin Hill · Westerham, Kent TN16 3BH · United Kingdom

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:10
To: [redacted]
Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

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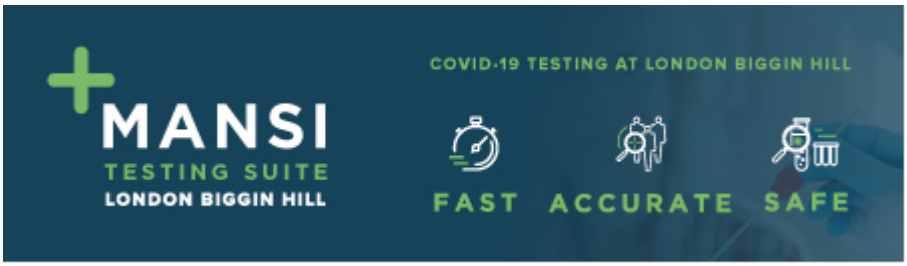
W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 09 November 2020 11:14

To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Subject: FW: NEW INSTRUMENT APPROACH PROCEDURE

Biggin

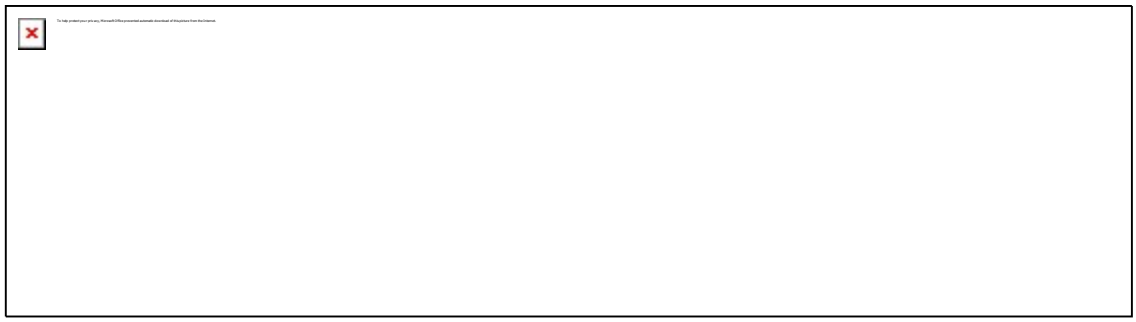
I see that safety is your number one design principle which is good but I do not see one that states minimal impact to other airspace users. That said as you are replicating the ILS approach there should not be any additional impact.

Yours

[redacted]

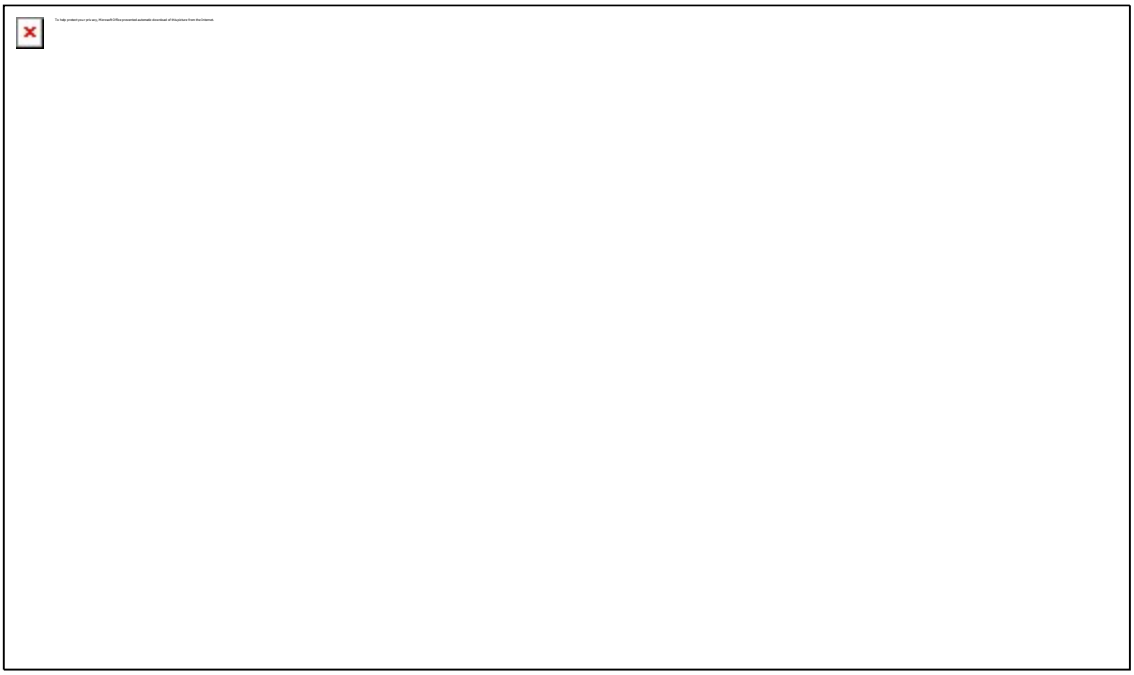
From: [redacted]
Sent: 06 November 2020 17:11
To: [redacted]
Subject: NEW INSTRUMENT APPROACH PROCEDURE

View this email in your browser



AIRSPACE CHANGE

NEW INSTRUMENT APPROACH PROCEDURE



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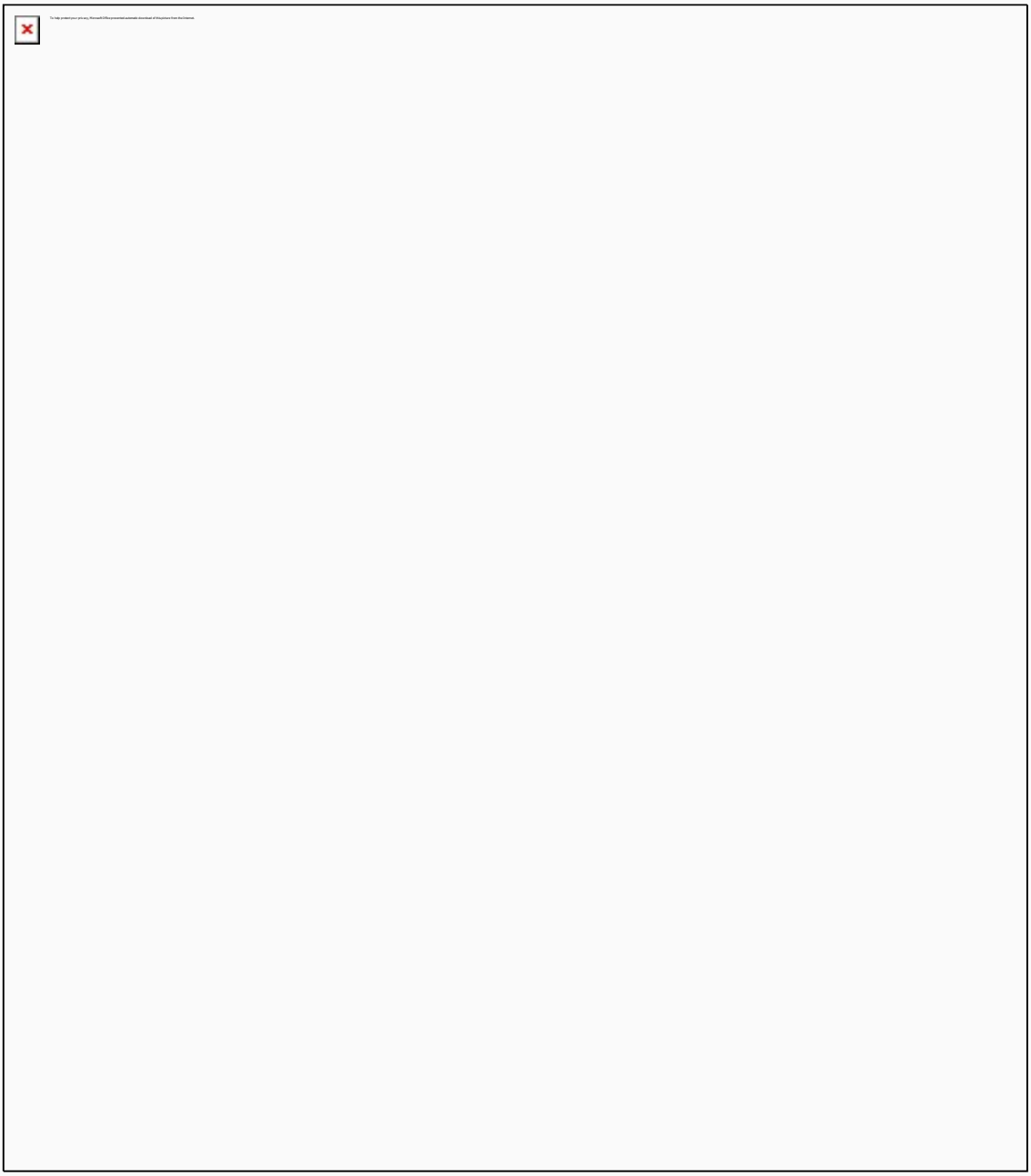

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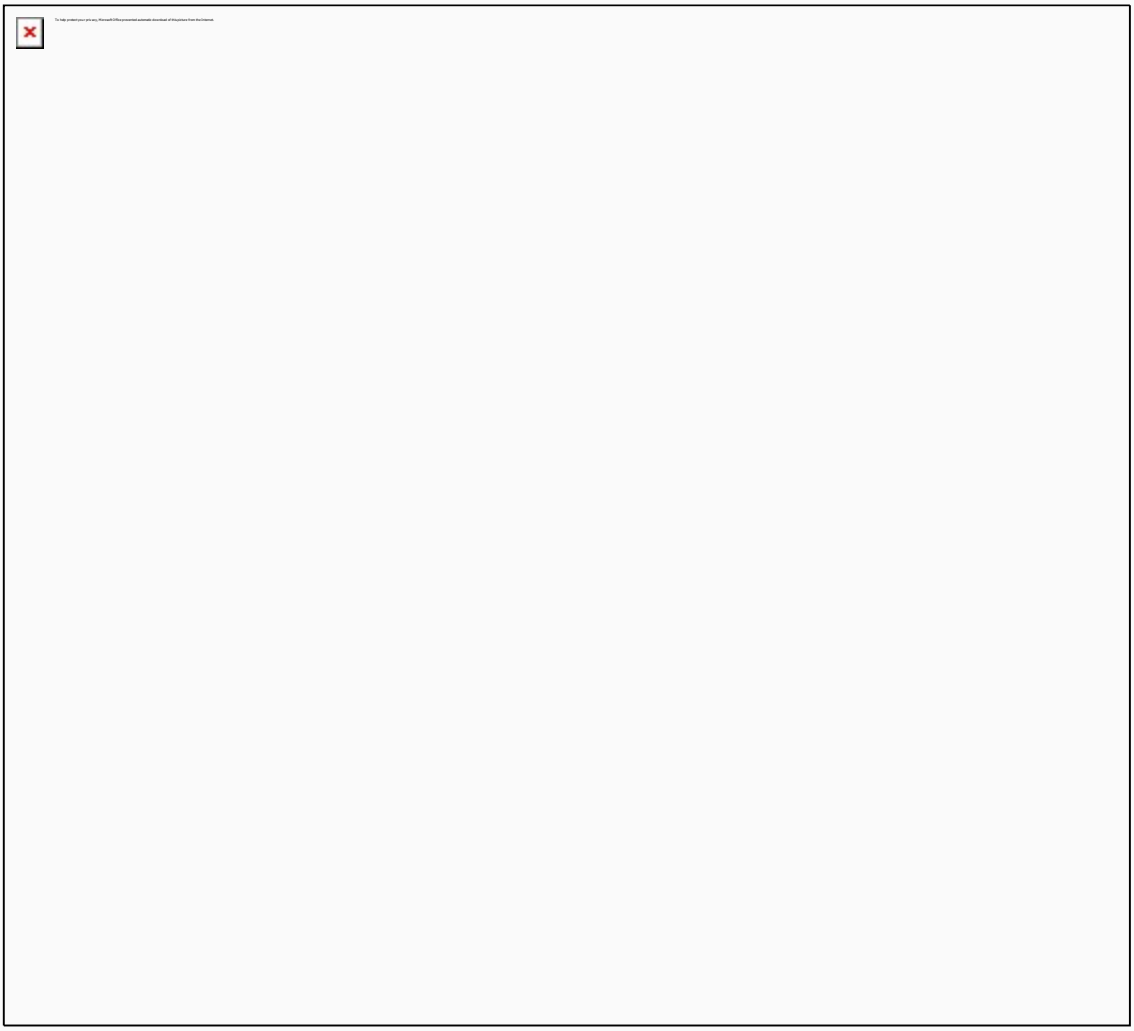

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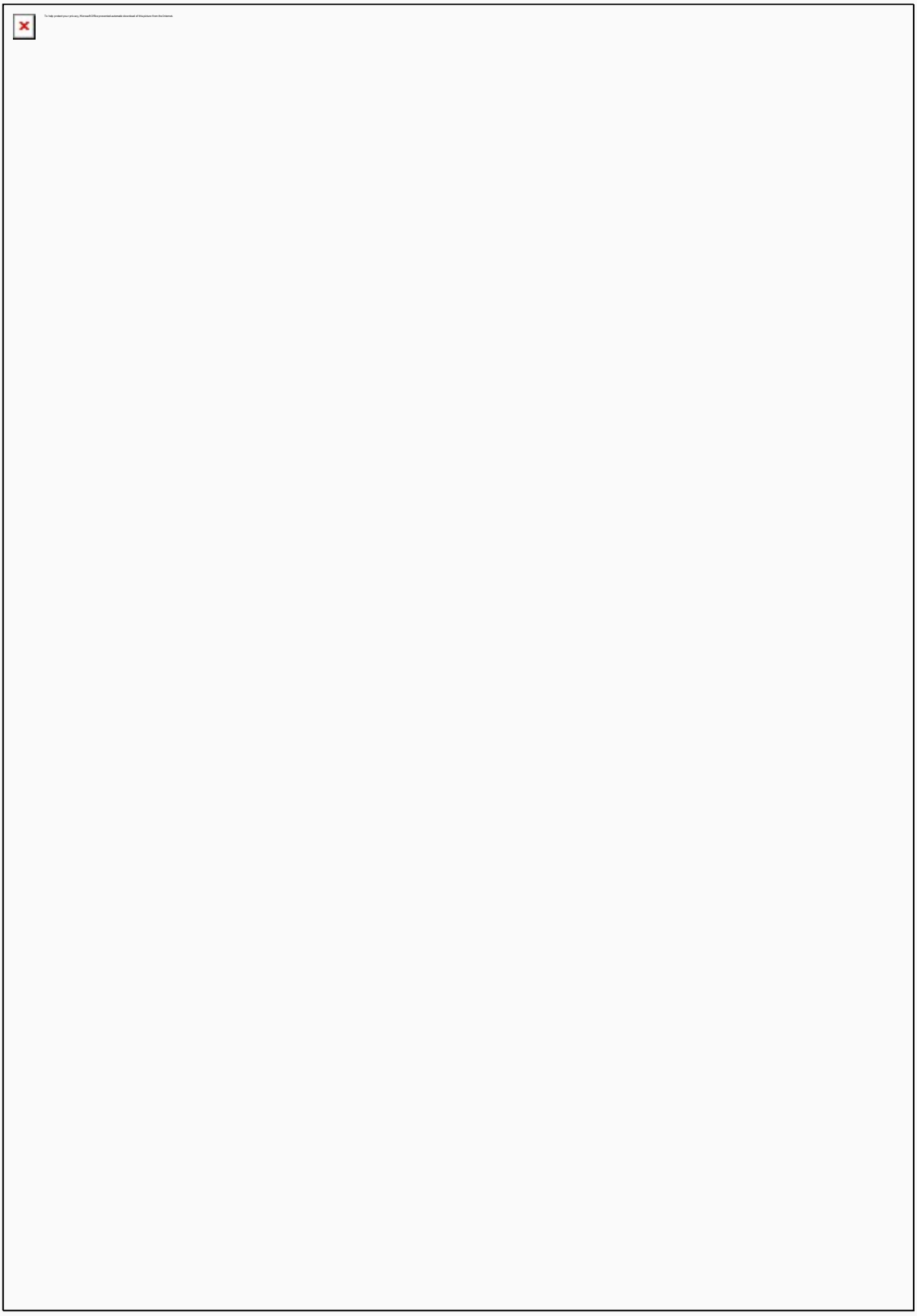

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Figure 4 Draft Design Principles

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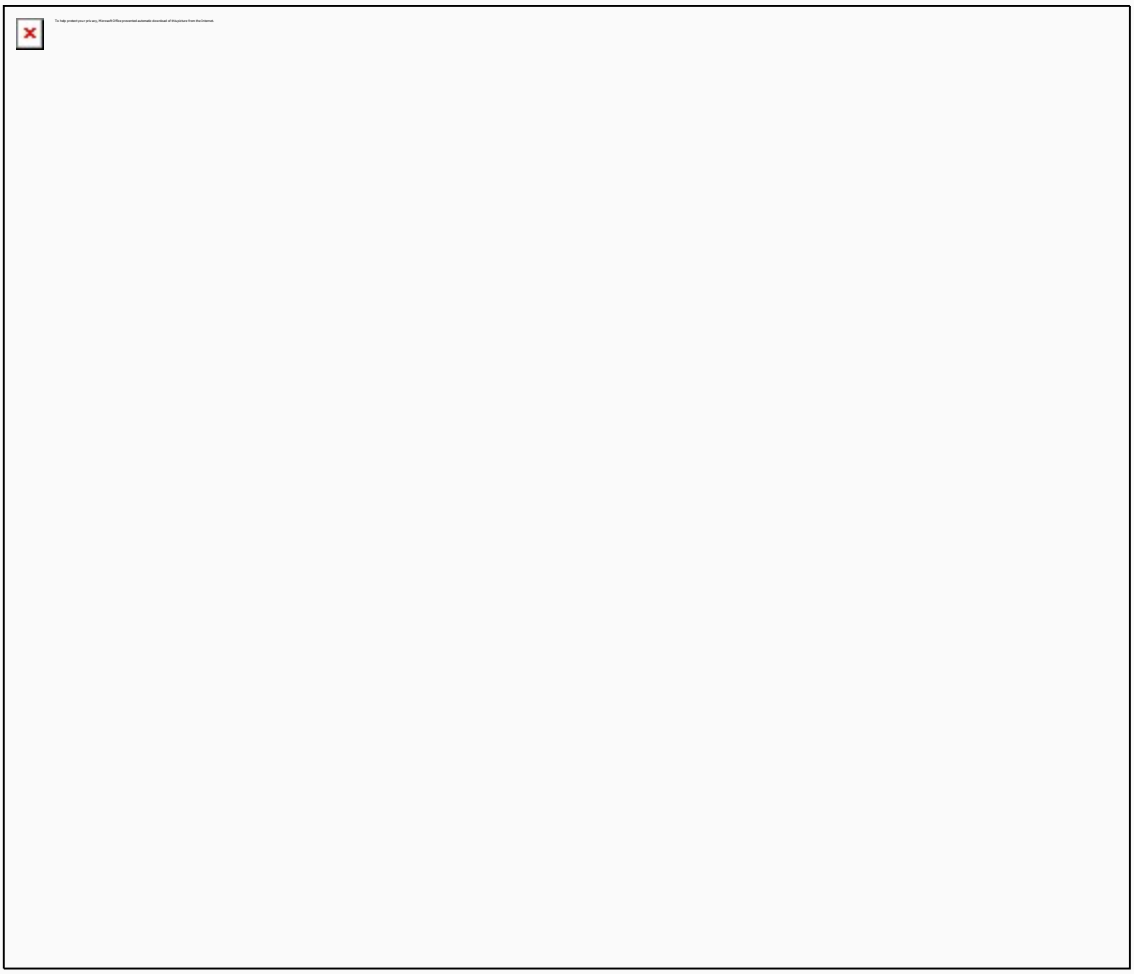

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Email us Now



You can update your preferences or unsubscribe from this list.

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:10
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Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

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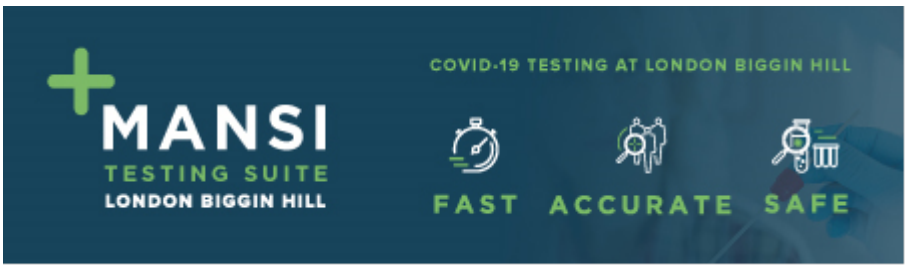
LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 10 November 2020 14:51

To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>
Subject: RE: NEW INSTRUMENT APPROACH PROCEDURE

Hi [redacted]

Thank you. The MoD agree with your proposed design principles.

We look forward to further engagement as this ACP progresses.

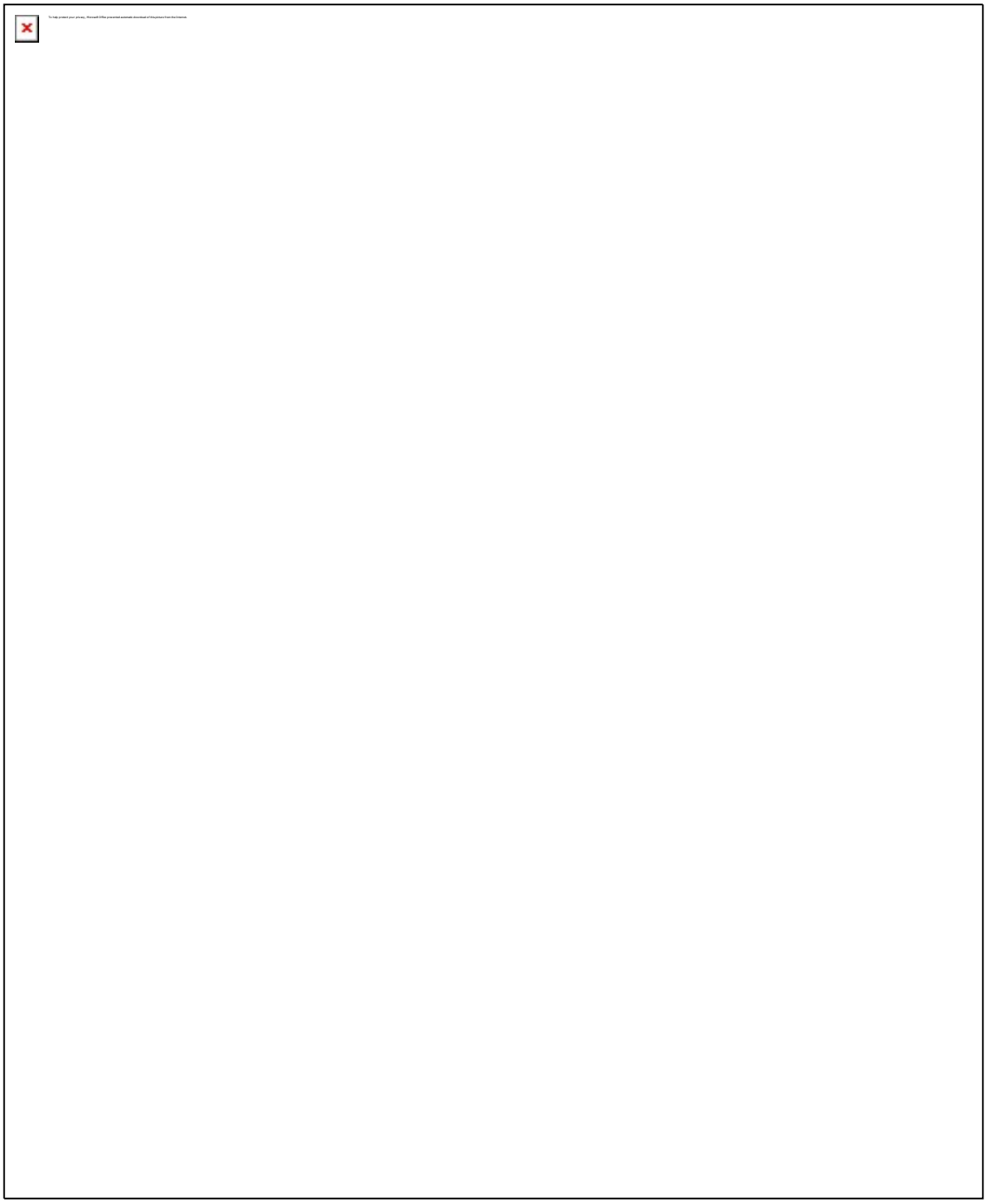
Kind regards,

[redacted]

[redacted]

From: [redacted]
Sent: 06 November 2020 17:11
To: [redacted]
Subject: NEW INSTRUMENT APPROACH PROCEDURE

View this email in your browser



AIRSPACE CHANGE

NEW INSTRUMENT APPROACH PROCEDURE

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- If successful, it will also add a layer of resilience to the airport operation by providing a second instrument approach in the event that the current procedure is unavailable.

We are progressing this change in accordance with the formal guidance from

the CAA detailed in CAP 1616. The process consists of 7 stages as shown below; we have completed Step 1A and we are currently in Stage 1, at Step 1B.

Visit the CAA Airspace Change Portal

Figure 1 Overview of the airspace change process

How can you help?

In Step 1B, the CAA requires us to develop a set of Design Principles, which will inform the design of the new arrival route that aircraft can chose to utilise to make an approach to Runway 21. CAP 1616 states that it is important for Design Principles to be drawn up through discussion between the Change Sponsor (in this case – LBHA) and potentially affected stakeholders at the early stages of the airspace change process. We understand that everyone has their own perspective about what is important, and therefore we have started the process of engagement with our stakeholders. The aim of this engagement is to ensure that LBHA has a good level of understanding of the design considerations that are important to all our stakeholders; this includes aviation and non-aviation stakeholders.

General Information

To explain this change in more detail it is necessary to use some aviation terminology. We have provided some facts and explanations below which we hope are useful.

- Runways at LBHA

We have 2 runways – Runway 21 and Runway 03. Runway 21 is an Instrument Runway which means that we have a procedure associated with the runway which provides Approach information in less than ideal weather conditions. Runway 03 is a visual runway, with no associated approach aids or procedures at the moment. When choosing which runway to use, the direction of the wind is important. For safety and performance reasons aircraft typically take off and land into wind. In the UK, the wind is mostly from the south-west, this means that the majority of aircraft come into land from the north-east, which means that Runway 21 is the most used runway at LBHA.

- What is an Instrument Landing System (ILS)?

The ILS is navigational aid that uses radar to guide aircraft on to a final approach, normally within 8 – 10 miles from touchdown. The point at which an aircraft joins the final approach varies due to conditions on the day and or vectoring by the controllers. Aircraft will then utilise the ILS which transmits two radio beams to provide pilots with vertical and horizontal guidance during the final approach to landing. Pilots interpret instruments in the cockpit which receive the information from the radar beams, and are guided to the runway, following a 3-degree approach angle.

- What is RNAV/GNSS?

These terms both fall under another term known as PBN - Performance Based Navigation (PBN). This is the key to achieving airspace modernisation as it improves accuracy of where aircraft fly by moving away from outdated and conventional navigation using ground-based beacons, such as the ILS, to modern satellite navigation. This is similar to the sat navs that most people have in their cars today. PBN is being introduced across the world. The new technology allows more flexible positioning of routes and enables aircraft to fly them more accurately. This helps improve operational performance and reduce delays. LBHA needs to introduce PBN to comply with EASA Regulatory requirements detailed within IR (EU) 20 18/10 48 and to meet our commitments to the Government's Airspace Modernisation Strategy. For more information on PBN you may like to read the CAA's document on "Airspace Design Guidance: Noise mitigation consideration when designing PBN departure and arrival routes" known as CAP 1378, available through the CAA website https://www.caa.co.uk/Our-work/Publications/Publications/

- What is a Missed Approach Procedure?

Occasionally it is necessary for the pilot of an aircraft to abort a landing. There is an established procedure to follow when this occurs that is known as a Missed Approach or a go-around. This is where the pilot aborts the landing and then re-joins the landing pattern. It is a well-practiced and safe procedure which pilots and air traffic controllers are trained and prepared for. Although there are many reasons for a go-around they can often be caused by periods of strong winds and adverse weather.

Specific Information

When Runway 21 is the landing runway, most aircraft make an approach to land using the existing Instrument Landing System (ILS). Figure 2 below shows the procedure routing for the ILS/DME Instrument Approach to Runway 21: the full blue line shows the arrival route from 3000ft to just above touchdown on the runway and the dotted blue line shows a rarely used procedure called the Missed Approach which is used when a landing has not been possible, and a second attempt at an ILS approach will be required.

Please note:

- When aircraft fly this ILS approach today, they DO NOT follow the lines depicted exactly, they can be "on track" and flying in accordance with the procedure but be in a swathe around the blue lines shown below.
- Aircraft can be vectored by air traffic control to maintain safety; this will not change.
- We have no plans to change any routes above 3000ft

- At this stage of the process we believe that any change over the ground will be minimal

Figure 2 – Runway 21 ILS and Missed Approach Procedure

Figure 3 below shows the current Instrument Approach chart for the ILS/DME procedure.

Figure 3 – Runway 21 Instrument Approach Chart ILS/DME/VOR Runway 21

Draft Design Principles

To help begin this engagement we have developed the following set of draft design principles. You may wish to see design principles that have been developed in other ACPs, if so please visit the CAA Airspace Change Portal https://airspacechange.caa.co.uk/

We believe that these design principles provide a balance between what is required to fulfil the scope of this project and the environmental concerns that any change brings. For instance, Design Principle D will support the development of options that relate to keeping aircraft higher for longer, continuous descent profiles and possible increased glideslopes as these characteristics help us to minimise aircraft noise.

Visit the CAA Airspace Change Portal

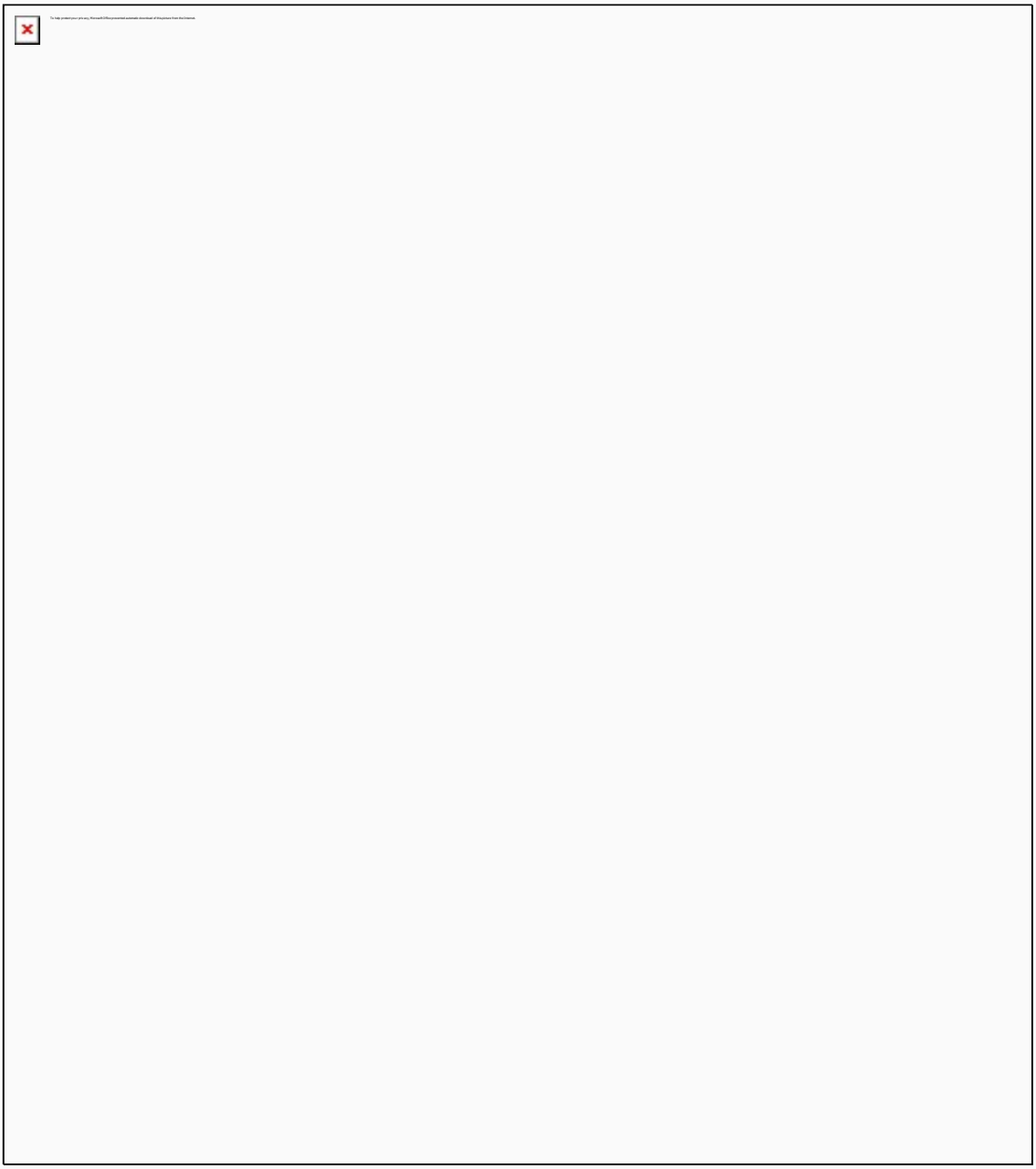

Figure 4 Draft Design Principles

To assist with further development of the design principles, LBHA requests comment and feedback, positive or negative from our stakeholders, both aviation and non-aviation.

Identification of Stakeholders

To enable us to identify the relevant stakeholders for this airspace change, we have established a geographical Stakeholder Area based on the Statement of Need, the current surrounding airspace construct that we will work with, and the expertise of procedure designers providing the widest possible proposed area. The Red circle indicates the geographical area which will be the focus of our initial engagement.

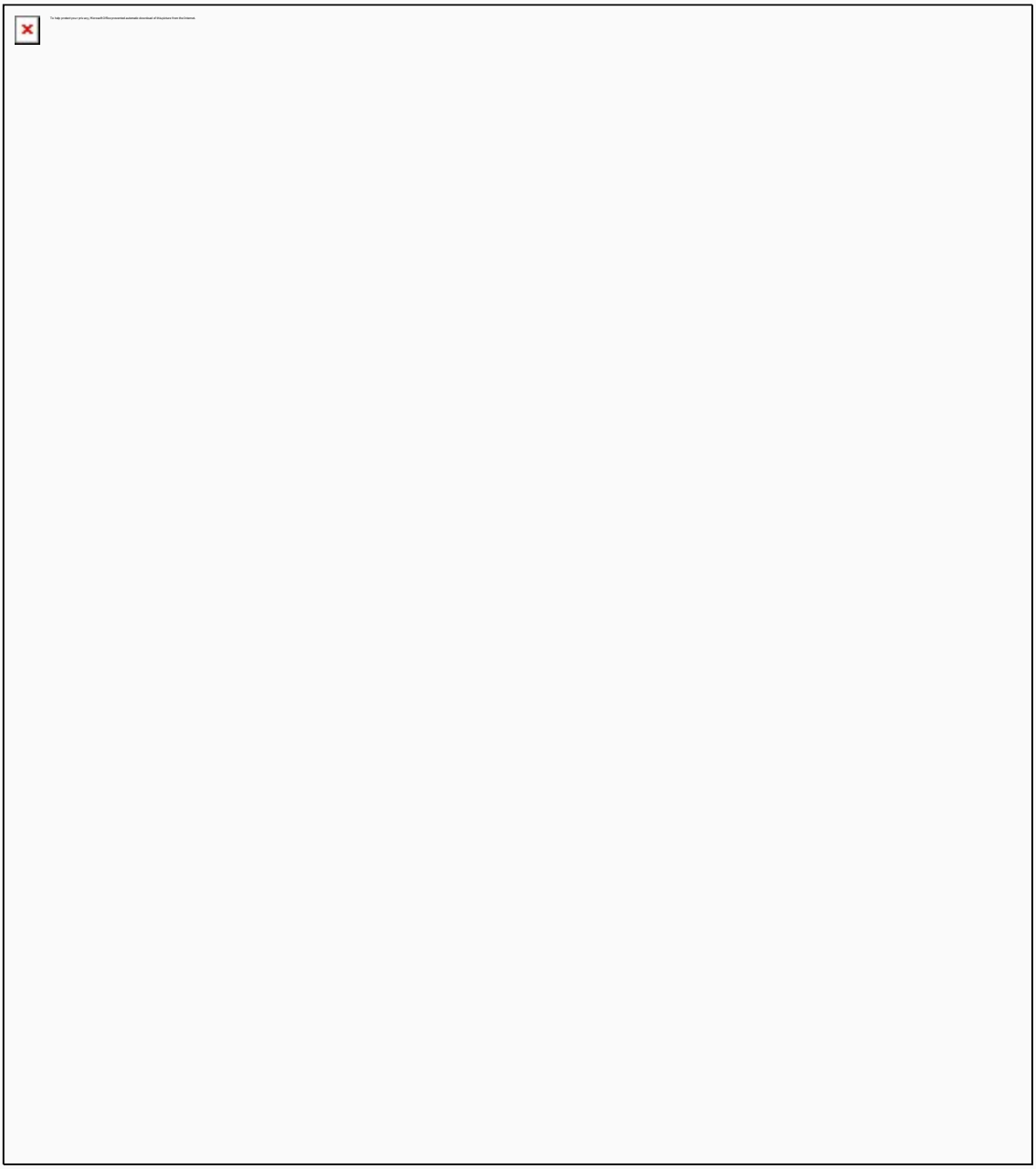

Figure 4 – Geographical Engagement Area (Surrounded by RED boundary)

The aviation stakeholders include local Airlines, the local General Aviation (GA) community, airport operators and air navigation service providers (ANSP) and members of the National Air Traffic Management Advisory Committee (NATMAC). As part of the CAP 1616 process we have to maintain a record of

contact with all our stakeholders.

Non-aviation stakeholders include Local Government Authorities, Members of Parliament, members of the airport's consultative committee, national organisations and local resident associations and individuals.

Please note that this engagement is not the formal consultation.

The formal consultation comes at Stage 3 (see figure 1).

Your Feedback

We ask that you consider our draft design principles and rank them in priority order, with 1 being the highest priority and therefore the most important to you.

Additionally, you may like to tell us why you disagree with any of the principles, or you may wish to suggest changes or describe new principles that we should consider. Please also advise us of any other issue or constraint you feel should be considered in our design process. We welcome your feedback

Please complete this and return it to us by **13th November 2020.** If you feel that you require more time to provide feedback, please advise via email at 21RNAVACP@bigginhillairport.com at the earliest opportunity.

Unfortunately, due to the current CoVID 19 restrictions we are unable to hold

any face to face meetings. But please contact us at 21RNAVACP@bigginhillairport.com if you require clarification of either the design principles or the process, and we will be in touch.

Next Steps

Once we have received all the responses, we will analyse and theme them, and determine how they can be included. For example, an additional constraint might be included with a slight adjustment to wording of one of our draft design principles. Once we have analysed the responses, we will develop a revised list of design principles which we will share with our stakeholders.

Email us Now

  

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:09
To: [redacted]
Subject: RE: New Instrument Approach Procedure
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

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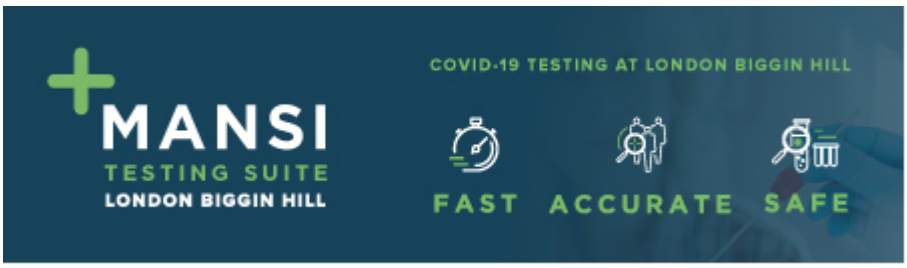
BIGGIN HILL
AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

-----Original Message-----
From: [redacted]
Sent: 10 November 2020 23:23
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

Cc: [redacted]
Subject: New Instrument Approach Procedure

[redacted] consider that all Environmental Principles should be CORE.

Kind regards

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:13
To: [redacted]
Subject: RE: New Instrument Approach Procedure
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

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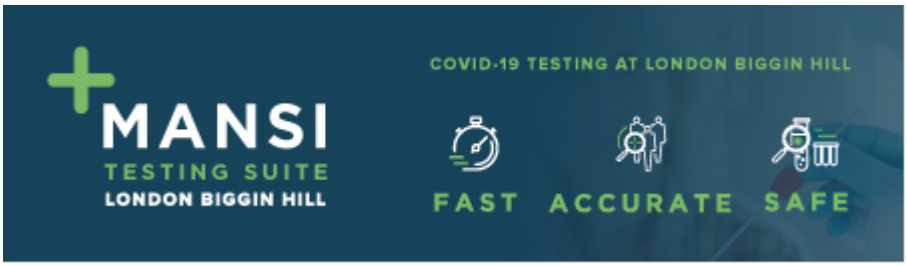

Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 07 November 2020 09:45
To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

[redacted]

Subject: New Instrument Approach Procedure

Dear Sir or Madam,

In answer to your request for feedback on the Draft Design Principles for the New Instrument Approach Procedure, please find enclosed a one-page summary of comments and my proposed ranking.

I should be grateful if you would acknowledge receipt of this email and enclosed document.

Yours sincerely

[redacted]

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:16
To: [redacted]
Subject: RE: New Instrument Design Procedure
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

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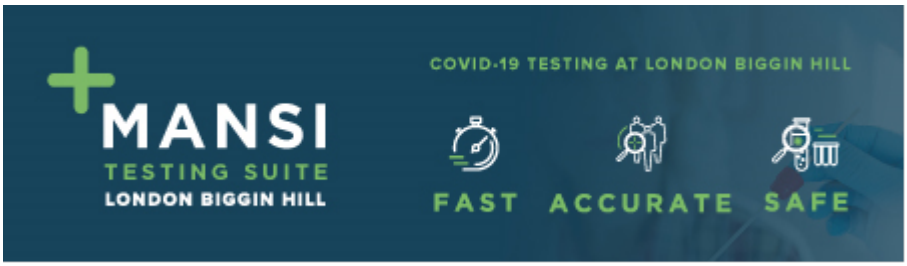


Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

-----Original Message-----
From: [redacted]
Sent: 29 October 2020 14:21

To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

[redacted]

Subject: New Instrument Design Procedure

To Whom it may concern

I write on behalf of the Keston Village Residents Association, with regard to the New Instrument Design Procedure. I am currently the Chair of the KVRA and our thoughts and suggestions are as follows.

We feel, as residents of Keston Village, that Environmental issues, including "minimising noise" and "overflight of population" should be of a much higher priority than you have rated and should be core. Please see our suggested revised list below.

A. SAFETY
B. ENVIRONMENTAL
C. REPLICATION.
D. COMPLIANCE.
E.NAVIGATIONAL STANDARDS.
F EFFIECIENT ROUTES.

I look forward to receiving your feed back.

Kind regards

[redacted]

[redacted]

From: EGKB Runway 21 RNAV Approach
Sent: 10 December 2020 14:07
To: [redacted]
Subject: RE: Runway 21 Airspace Change proposal
Attachments: LBHA Design Principles Report Issue 1 Redacted.pdf

Good Afternoon,

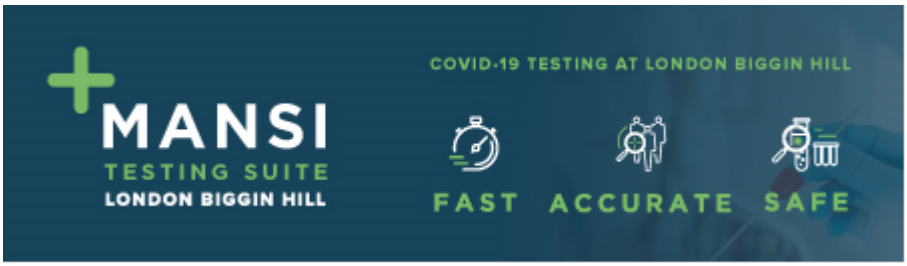
Thank you for your input into the London Biggin Hill Airport Airspace Change Engagement for the introduction of a Runway 21 RNAV Approach. Please find attached a Design Principles Report which has allowed us to finalise our Design Principles, against which our Design Options will be created. We anticipate that the consultation will be conducted during the late summer of 2021.

Regards,

London Biggin Hill Airport Airspace Team

LONDON BIGGIN HILL AIRPORT

W: bigginhillairport.com



Main Passenger & Executive Terminal
Biggin Hill Airport
Main Road
Biggin Hill
TN16 3BH

From: [redacted]
Sent: 12 November 2020 18:55

To: EGKB Runway 21 RNAV Approach <21RNAVACP@bigginhillairport.com>

[redacted]

Subject: Runway 21 Airspace Change proposal

Dear Mr[redacted]

Please find attached London Borough of Bromley's response to your initial stakeholder engagement regarding the Runway 21 Airspace Change Proposal.

Kind regards,

[redacted]

[redacted]