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London Luton Airport Expansion

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Volume 8 Additional Submissions (Examination)

8.113 Applicant's Response to Issue Specific Hearing 3

Action 24: Additional Ground Noise Modelling Information

Infrastructure Planning (Examination Procedure) Rules 2010

Application Document Ref: TR020001/APP/8.113



The Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

**London Luton Airport Expansion Development Consent
Order 202x**

**8.113 Applicant's Response to Issue Specific Hearing 3 Action 24 –
Additional Ground Noise Modelling Information**

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1 INTRODUCTION

1.1.1 This document has been prepared by Luton Rising (a trading name of London Luton Airport Limited) ('the Applicant') for submission to the Examining Authority ('ExA'). It provides additional ground noise modelling information in response to Action 24 from the ExA [EV8-008] following Issue Specific Hearing 3 (ISH3) held on 27 September 2023:

“To model noise contours without the two large hangers on the northern boundary of the airport in Phase 2b.”

1.1.2 The modelling and assessment methodology for the ground noise assessment is presented in Section 16.5 of **Chapter 16** of the **Environmental Statement (ES) [REP1-003]**. Results of the assessment are presented in Section 16.9 of the same chapter. The ground noise assessment for each assessment phase takes into account the airfield building infrastructure as identified in the Work Numbers in **Chapter 5** of the **ES [AS-075]** and the **Scheme Layout Plans [AS-072]**.

1.1.3 During ISH3, the ExA raised questions about the phasing of the development, and whether, if the Proposed Development¹ were to change, such that parts of it were built out differently, or on a different timeline, could the noise impacts be different. In particular, the ExA queried the noise implications of not building Hangars A and B (Work No. 4b) in assessment Phase 2b.

1.1.4 This document provides an alternative modelling scenario in which Hangars A and B are not built in assessment Phase 2b. Commentary is also provided on updates to the Requirements within the **Draft Development Consent Order** submitted at Deadline 5 [TR020001/APP/2.01] that provide security that implementation of, or changes to, the detailed design of the Proposed Development must not give rise to any materially new or materially different environmental effects in comparison with those reported in the ES.

2 HANGARS A AND B (WORK NO. 4B)

2.1.1 Four existing buildings, located along President Way between Airport Approach Road and Prince Way, would be demolished and replaced in assessment Phase 2b of the Proposed Development. They are to the north of the existing terminal located adjacent to the existing northern aircraft apron. These are currently standard commercial units which would be replaced by two new single bay general aviation or aircraft maintenance hangars to serve the increasing demand from the growing aircraft fleet. The proposed hangars are shown in the **Scheme Layout Plans [AS-072]**.

¹ As defined in **Chapter 1** of the **ES [APP-029]**

3 ALTERNATIVE ASSESSMENT PHASE 2B SCENARIO

3.1 Alternative scenario definition

3.1.1 Hangars A and B would be constructed to provide new single bay general aviation or aircraft maintenance hangars to serve the increasing demand from the growing aircraft fleet. Given that the need for these hangars is to serve the increasing demand, a scenario in which the assessment Phase 2b capacity of 32 mppa is met without the construction of the hangars is considered unlikely.

3.1.2 However, in response to the ExA's action point, an alternative assessment Phase 2b scenario at 32mppa, but without the construction of Hangars A and B has been modelled. For the purpose of the alternative assessment it is assumed that the existing buildings (outlined in blue in **Inset 3-1**) would be retained until such time as the hangars are required i.e. there is no likely scenario in which the existing buildings would be demolished and left as vacant plots.

Inset 3-1: Existing Buildings (outlined in blue) at Hangars A and B Site



3.2 Results

3.2.1 The results of ground noise modelling of the 2019 Actuals Baseline, 2043 Do-Minimum (DM) alternative Do-Something (DS) scenario assessment Phase 2b are presented in **Table 3.1** and **Table 3.2**. Results are described in terms of the:

- a. Lowest Observed Adverse Effect Level (LOAEL);
- b. Significant Observed Adverse Effect Level (LOAEL); and
- c. Unacceptable Adverse Effect Level (UAEL).

3.2.2 For ease of comparison, the equivalent results from the ES assessment Phase 2b scenario with Hangars A and B (reproduced from Table 16.67 of **Chapter 16 of the ES [REP1-003]**) are also presented in the same table. Noise contours for the alternative scenario are presented in **Appendix A** of this document.

Table 3.1: Alternative scenario assessment Phase 2b 2043 Summary of residential properties within the Ground Noise LOAEL, SOAEL and UAEL contours (equivalent ES scenario shown in brackets and cells with differences highlighted)

Noise exposure	Total Residential Properties				
	2019 Actuals Baseline	2043 DM	2043 DS	Change DS – 2019 Actuals Baseline	Change DS - DM
Daytime					
Above LOAEL and below SOAEL	3,680	1,810	1,905 (1,815)	-1,775 (-1,865)	95 (5)
Above SOAEL and below UAEL	4	0	4 (4)	0 (0)	4 (4)
Newly above the SOAEL in DS compared to the 2019 Actuals Baseline			0 (0)		
Above UAEL	0	0	0 (0)	0 (0)	0 (0)
Night-time					
Above LOAEL and below SOAEL	4,800	2,930	3,190 (3,050)	1,610 (-1,750)	260 (120)
Above SOAEL and below UAEL	120	9	7 (7)	-113 (-113)	-2 (-2)
Newly above the SOAEL in DS compared to the 2019 Actuals Baseline			0 (0)		
Above UAEL	0	0	0 (0)	0 (0)	0 (0)

Table 3.2: Alternative scenario assessment Phase 2b Summary of DS-DM ground noise change (equivalent ES scenario shown in brackets and cells with differences highlighted)

Magnitude of effect	Noise change (DS-DM)	Residential properties experiencing change	
		Day	Night
DS noise above LOAEL and below SOAEL			
Major	+6.0dB or more	0 (0)	0 (0)
Moderate	+3.0 - +5.9dB	0 (0)	0 (0)
Minor	+2.0 - +2.9dB	35 (35)	80 (80)
Negligible	+1.0 - +1.9dB	220 (200)	590 (440)
	+0.1 - +0.9dB	940 (800)	1,390 (1,200)
	No change	160 (160)	280 (280)
	-0.1 - -0.9dB	420 (450)	580 (720)
	-1.0 - -1.9dB	130 (170)	270 (330)
Minor	-2.0 - -2.9dB	0 (0)	0 (0)
Moderate	-3.0 - -5.9dB	0 (0)	0 (0)
Major	-6.0dB or less	0 (0)	0 (0)
DS noise above SOAEL and below UAEL			
Major	+4.0dB or more	0 (0)	0 (0)
Moderate	+3.0 - +3.9dB	0 (0)	0 (0)
	+2.0 - +2.9dB	2 (2)	0 (0)
Minor	+1.0 - +1.9dB	2 (2)	6 (6)
Negligible	+0.1 - +0.9dB	0 (0)	1 (1)
	No change	0 (0)	0 (0)
	-0.1 - -0.9dB	0 (0)	0 (0)
Minor	-1.0 - -1.9dB	0 (0)	0 (0)
Moderate	-2.0 - -2.9dB	0 (0)	0 (0)
	-3.0 - -3.9dB	0 (0)	0 (0)
Major	-4.0dB or more	0 (0)	0 (0)
DS noise above UAEL			
Unacceptable	+0.1 dB or more	0 (0)	0 (0)

3.2.5 The comparison indicates that Hangars A and B provide a greater level of screening than the existing buildings for receptors located in the area to the north. In the unlikely scenario that the new hangars were not constructed but the capacity of 32 mppa was still met, compared to the scenario assessed in the Environmental Statement there would be:

- a. 90 additional properties exposed above the daytime ground noise LOAEL and below the SOAEL that would experience a negligible effect that is **not significant**;
- b. 140 additional properties exposed above the night-time ground noise LOAEL and below the SOAEL that would experience a negligible effect that is **not significant**;
- c. no additional properties exposed above the daytime ground noise SOAEL;
- d. no additional properties exposed above the night-time ground noise SOAEL; and therefore
- e. no new or different identified likely significant effects (due to noise change) or significant effects on noise and health of quality of life (due to exposure above the SOAEL).

3.2.6 In summary, there are no changes to the identified likely significant effects and the conclusions of residual significant effects in the ES are unchanged when considering the alternative scenario.

4 RELEVANT UPDATES TO THE DEVELOPMENT CONSENT ORDER

- 4.1.1 In view of the comments made in ISH1, ISH3 and ISH6, in written submissions by Interested Parties, and in response to the ExA's first written questions, the Applicant made substantial revisions to Requirements 5 and 7 in the Draft **Development Consent Order (DCO) [REP4-003]** submitted at Deadline 4. Requirement 7 has been merged and expanded into an amended Requirement 5 (now "*Detailed design, phasing and implementation*").
- 4.1.2 The amended Requirement 5 references the **Scheme Layout Plans [AS-072]** (now certified by Schedule 9) and sets out the detailed information that would be required for an application under that paragraph to provide sufficient clarity to the relevant planning authorities as to the scope / phase of works contained in that application, and how they relate to the **Scheme Layout Plans [AS-072]** and any DCO works previously authorised.
- 4.1.3 The Requirement is now more prescriptive about the information required to be included in an application for detailed approval. It requires that the phase of works must be in accordance with the **Design Principles [TR020001/APP/7.09]**, within the limits shown on the works plans, within the parameters set out in paragraph 6, and must not give rise to any materially new or materially different environmental effects in comparison with those reported in the ES.
- 4.1.4 This Requirement therefore provides security that implementation of, or changes to, the detailed design of the Proposed Development (for example if design changed such that Hangars A and B were not built) must not give rise to any materially new or materially different noise effects in comparison with those reported in **Chapter 16** of the **ES [REP1-003]**.

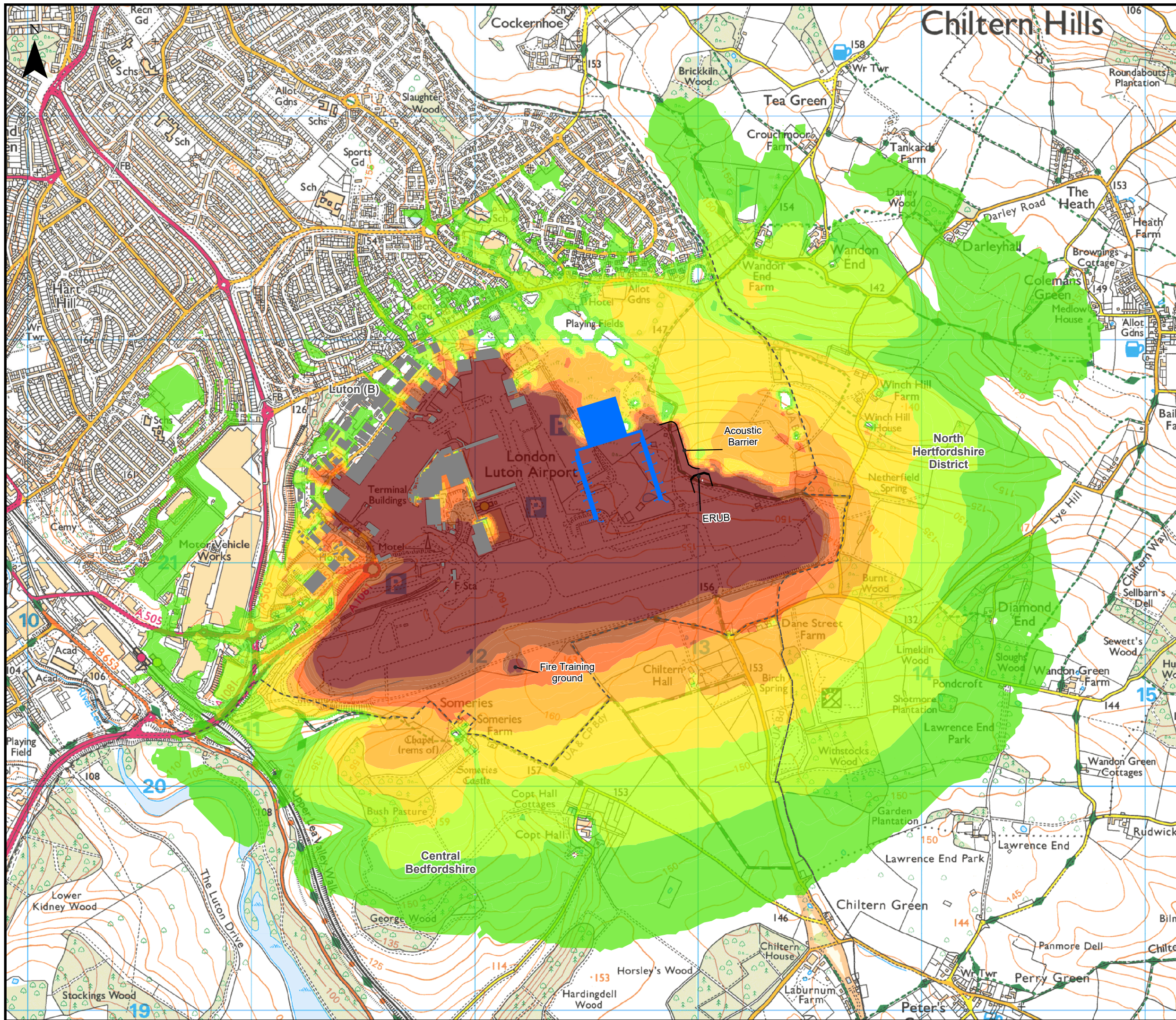
5 CONCLUSION

- 5.1.1 In response to the ExA's Action 24 **[EV8-008]** following ISH3, an alternative ground noise assessment Phase 2b scenario, in which Hangars A and B are not built and the existing buildings are retained, has been modelled and assessed.
- 5.1.2 The results of the modelling show that, whilst there would be some additional properties exposed above the daytime and night-time ground noise LOAEL and below the SOAEL, the noise change experienced by these properties would be negligible and **not significant** and therefore the conclusions of significant effects in **Chapter 16** of the **ES [REP1-003]** would be unchanged.
- 5.1.3 Updates to the **Draft DCO [REP4-003]** made at Deadline 4 provide security that implementation of, or changes to, the detailed design of the Proposed Development (for example, if design changed such that Hangars A and B were not built) must not give rise to any materially new or materially different noise effects in comparison with those reported in **Chapter 16** of the **ES [REP1-003]**.

GLOSSARY AND ABBREVIATIONS

Term	Definition
DM	Do-Minimum
DS	Do-Something
ExA	Examining Authority
ISH	Issue Specific Hearing
LOAEL	Lowest Observed Adverse Effect Level
SOAEL	Significant Observed Adverse Effects Level
UAEL	Unacceptable Adverse Effect Level

APPENDIX A – ALTERNATIVE ASSESSMENT GROUND NOISE CONTOURS (FIGURES 1 AND 2)



Chiltern Hills

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All structure positions are indicative. The proposed works will be subject to detailed design development. The changes will be within limits of deviation specified in the Development Consent Order.

Legend

- Local Authority Boundaries
 - Airport Site Buildings
 - Proposed Terminal - Assessment Phase 2b
- Ground Noise Contours in Decibels (dB) (2043 Do-Something Daytime LAeq, 16h)**
- LOAEL - 53 dB
 - 54 dB - 56 dB
 - 57 dB - 59 dB
 - 60 dB - 62 dB
 - SOAEL - 65 dB
 - 66 dB - 68 dB
 - ≥ UAEL

Lowest Observed Adverse Effect Level (LOAEL) = 51 dB
 Significant Observed Adverse Effect Level (SOAEL) = 63 dB
 Unacceptable Adverse Effect Level (UAEL) = 69 dB

ERUB = Engine Run Up Bay

First Issue	LP	CSH	CS	14/11/23	P02
Revision History	Drawn	Checked	Approved	Date	Rev.

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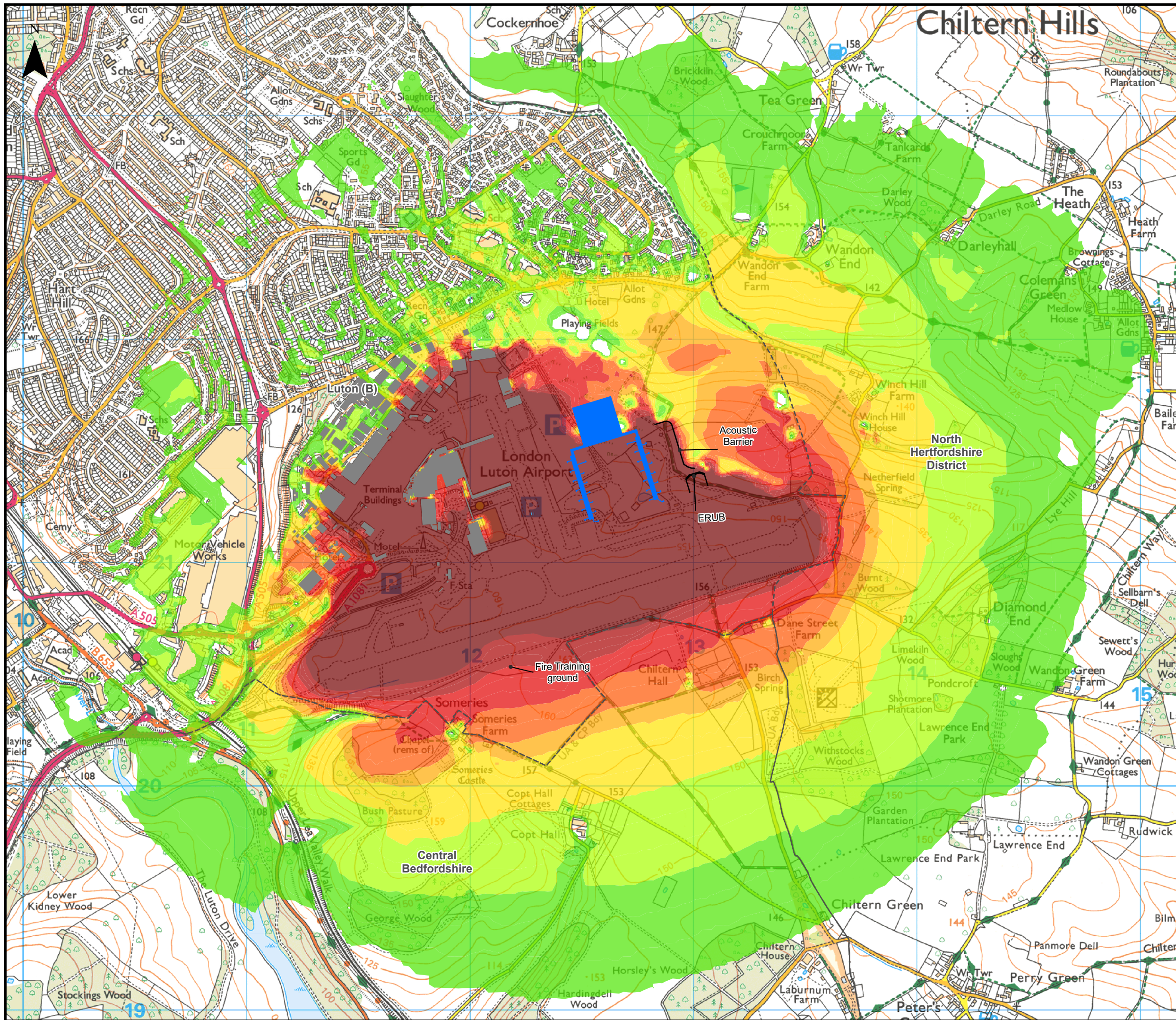
London Luton Airport Expansion Development Consent Order

Drawing Title: **Figure 1**
 Extent of 2043 Do-Something Daytime LAeq, 16h Ground Noise Contours without the construction of Hangars A and B

Purpose of issue	Additional Submissions - Deadline 5				Suitability
Drawn	Checked	Approved	Date	Scale	Size
LP	CSH	CS	14/11/23	1:16,000	A3

DCO Application Ref.	APFP Regulation	DCO Document Ref.
TR020001	N/A	TR020001/APP/8.113

Drawing Number	Revision
LLADCO-3C-AEC-00-00-DR-YE-0115	P02
Project - Phase - Originator - Asset/Zone - Sub Asset - Type- Discp. - Number	



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 All structure positions are indicative. The proposed works will be subject to detailed design development. The changes will be within limits of deviation specified in the Development Consent Order.

Legend

- Local Authority Boundary
- Airport Site Buildings
- Proposed Terminal - Assessment Phase 2b
- Ground Noise Contours in Decibels (dB) (2043 Do-Something Night-time LAeq,8h)**
- LOAEL - 47 dB
- 48 dB - 50 dB
- 51 dB - 53 dB
- 54 dB
- SOAEL - 56 dB
- 57 dB - 59 dB
- 60 dB - 62 dB
- ≥ UAEL

Lowest Observed Adverse Effect Level (LOAEL) = 45 dB
 Significant Observed Adverse Effect Level (SOAEL) = 55 dB
 Unacceptable Adverse Effect Level (UAEL) = 63 dB

ERUB = Engine Run Up Bay

First Issue	LP	CSH	CS	14/11/23	P01
Revision History	Drawn	Checked	Approved	Date	Rev.

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Drawing Title: **Figure 2**
 Extent of 2043 Do-Something Night-time LAeq, 8h Ground Noise Contours without the construction of Hangars A and B

Purpose of issue	Additional Submissions - Deadline 5					Suitability
Drawn	Checked	Approved	Date	Scale	Size	S2
LP	CSH	CS	14/11/23	1:16,000	A3	

DCO Application Ref.	APFP Regulation	DCO Document Ref.
TR020001	N/A	TR020001/APP/8.113

Drawing Number	Revision
LLADCO-3C-AEC-00-00-DR-YE-0116	P02

Project - Phase - Originator - Asset/Zone - Sub Asset - Type - Discp. - Number