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London Luton Airport Expansion

Planning Inspectorate Scheme Ref: TR020001

Volume 6 Consultation Report

Consultation Report

6.02 Appendix M 2022 Due Regard Tables Part 4 of 4

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The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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6.02 CONSULTATION REPORT

APPENDIX M: 2022 DUE REGARD TABLES – PART 4 OF 4

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Introduction

- 1.1.1 The host authorities (Hertfordshire County Council, North Hertfordshire District Council, Luton Borough Council and Central Bedfordshire Council (Ref 1) commissioned WSP to undertake a review of the 2022 statutory consultation documents. This review provided detailed comments on the Preliminary Environmental Impact Report (PEIR) which was published with the 2022 statutory consultation. These comments on the 2022 PEIR, along with the project's response to them, are set out in this Appendix. In addition, this Appendix sets out comments and responses received from Suono on the 2022 PEIR noise assessment and from WSP on the Equality Impact Assessment, both of which were submitted on behalf of the host authorities listed above.
- 1.1.2 The WSP submission also provided some comments on other consultation documents, and these are covered elsewhere in Appendix M under the relevant topic.
- 1.1.3 WSP used a coding system in their review of PIER Chapters 5- 16 and these codes are repeated in the tables below in the 'WSP code' column. Where WSP identified a question that is relevant to the 2022 PEIR, they used the following coding system to categorise the robustness of the information provided:
- A: full provision of information in line with the EIA Regulations and relevant guidance;
 - B: adequate provision of information in line with the EIA Regulations and relevant guidance with areas of minor non-compliance; or
 - C: weak provision of information with significant areas of non-compliance.

B1 2022 PEIR Chapters 1-4 review checklist and summary

Note: 'Ref.' is to tables 2-3 and 2-4 of the WSP on behalf of host authorities response.

Table B1.1: 2022 PEIR Chapters 1-4

		Consultee comment		Regard had to the consultee comment	Change
	Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
1	A description of the development including in particular:	Chapter 2 Site and Surrounds Chapter 4 The Proposed Development	Chapter 2 of the PEIR presents a description of the sites where aspects of the Proposed Development will be located, a description of existing airport infrastructure and related developments, and a summary of the surrounding environment. The chapter describes the other airport related developments and how, where relevant, the Proposed Development relates to them. Chapter 4 of the PEIR describes the Proposed Development for which consent is sought and on which the EIA is based. Detailed feedback on Chapter 4 is provided 1(b) of this table (description of the physical characteristics).	Noted.	No
1a	a description of the location of the development;	Section 2.2 to 2.4	Section 2.2 of the PEIR provides details of the site and surrounds and is split into four distinct geographical components: the Main Application Site Off-site car parks Off-site highways interventions Off-site planting.	Noted.	No

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
		<p>Descriptions and associated plans and figures showing the proposed development boundary, development areas and existing airport infrastructure, are clear and provide a good level of detail of the site and surrounds.</p> <p>Section 2.3 of the PEIR provides an overview of airport operations and a description of the current airport infrastructure, which is broken down into several headings corresponding with the different types and components of infrastructure. This section provides a good overview of the airport operational infrastructure. Recommendation: Provide an appendix of photographs in the ES to accompany the written descriptions.</p> <p>Section 2.4 of the PEIR identifies the location and relationship with existing airport related developments. These are planned and would presumably take place irrespective of Luton Rising proposals. They should therefore be reflected as part of the future baseline. A number of airport related developments, at various stages of planning and delivery, have been identified.</p> <p>Project Curium, Application to accommodate 19 mppa at the airport</p>	<p>The collection and provision of photography of an operational airport is not considered necessary to support the written description and figures provided, which provide adequate information on the site and surroundings in Chapter 2 Site and Surroundings of the ES [TR020001/APP/5.01]. Other airport related developments have been included in the future baseline where relevant and are reported in Chapter 5 Approach to Assessment of the ES [TR020001/APP/5.01]. Chapter 2 Site and Surroundings and Chapter 5 Approach to Assessment have been updated where necessary and provided in the ES [TR020001/APP/5.01].</p>	

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		<p>Luton DART Spoin reuse and placement from Luton DART and Curium Enterprise Zone. Bartlett Square New Century Park Century Park Access Road Elements of NCP superseded by the proposed development Elements of NCP delivered through NCP planning permission</p> <p>The location and footprint of existing developments is shown in Figure 2.4. This section, although brief, provides enough detail to understand and appreciate the related developments, and where applicable they are referenced in other chapters (i.e., Chapter 21 - Cumulative Effects Assessment). Figure 2.4 also assists greatly with providing context to the location and overall footprint for each scheme. It is understood that information captured in the PEIR will be updated for the ES, to include where applicable the proposed developments interaction or overlap.</p>			
1b	a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the	Chapter 4 The Proposed Development	<p>Chapter 4 of the PEIR describes the Proposed Development for which consent is sought and on which the EIA is based.</p> <p>This chapter is broken down into the following sections:</p>	<p>Chapter 4 The Proposed Development has been updated where necessary and provided in the ES [TR020001/APP/5.01].</p>	Yes

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
construction and operational phases; demolition works, and the land-use requirements during the construction and operational phases;		<p>4.1. Introduction 4.2. The proposed Development 4.3. Reference to design and parameters 4.4. Works Numbers (Work No.) 4.5. Works No. 1 – Sitewide major works to enable development 4.6. Works No. 2 – Airfield Works 4.7. Works No. 3 – Terminal and Associated Works 4.8. Works No. 4 – Airport Support Facilities 4.9. Works No. 5 – Landscape and Mitigation 4.10. Works No. 6 – Highways 4.11. Construction 4.12. Operation 4.13. Decommissioning 4.14. Airspace Change</p> <p>It is understood that information within the PEIR will be updated where necessary for coverage in the ES to include where applicable any comments received during scoping and/or consultation.</p>		
	Sections 4.2 to 4.14	<p>Sections 4.2 to 4.14 of the PEIR provide a description of the characteristics of the whole development including demolition works, and the land-use requirements during the construction and operational phases.</p> <p>The operational phases are broken down by work numbers (1-6). The</p>	Noted. This has been updated where necessary and provided in Chapter 4 The Proposed Development of the ES [TR020001/APP/5.01] .	Yes

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
		<p>work numbers are broken-down further by their associated construction phases (Phase 1, 2a and 2b). These are identified in Table 4.1. The corresponding location of each work number has been provided in a series of figures (Figure 4.1 (phase 1), Figure 4.2 (phase 2a, Figure 4.3 (phase 2b). Table 4.1 and supporting Figures make it clear at what operational phase the work will commence.</p> <p>Full descriptions of each work activity, where relevant to the PEIR and where they are included within the Proposed Development, are provided in sections 4.4 to 4.8. The operational phases of the highway interventions are described in section 4.10 of the PEIR. Indicative locations of the off-site highway interventions are overlaid on the Illustrative Work Locations (Figures 4.1 to 4.3) Further details, including outline drawings, are located in the 'Getting to and from the airport' (the emerging transport strategy). A break-down of the Highway Intervention Proposals (by phase) is provided in Table 4.2.</p> <p>The information provided on phasing of works, including those activities proposed within Work No. 5 (Landscaping and Mitigation) is suitable for the purposes of the PEIR, although it is recognised that further</p>		

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
		<p>detailed review of this information will be covered in Section 2.17 (Landscape and Visual) of PEIR Review. It is recognised that all mitigation embedded in a design should be clearly identified as part of the description of the relevant components. This has been achieved. It is acknowledged that the mechanisms to secure mitigation will form part of the 'Mitigation Route Map' or similar, as part of the ES. Section 4.11 presents a summary list of the detailed construction information used to inform the PEIR, which is provided in a full Construction Method Statement and Programme Report provided as Appendix 4.1 in Volume 3 of the PEIR. The Construction Method Statement and Programme Report (Appendix 4), is broken-down into relevant phases.</p> <p>Chapter 2 of the PEIR provides a high-level overview of the key phases of the construction of the proposed development, including reference to demolition works, which is detailed in Appendix D (Site Clearance Drawings). The subsequent construction phase chapters provide a reasonable overview of the key construction constraints and interfaces, construction programme and phasing</p>		

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
		<p>and construction methodology, which includes, but is not limited to, replacement of open spaces, utilities diversion, interface schedule, bulk earthworks, and new infrastructure (as proposed in Chapter 4 'The Proposed Development').</p> <p>The Project Logistics Chapter covers factors such as, construction management, health and safety, regulations, codes of practice, logistics plans, hours of work and more, all providing a basic level of detail on managing the environmental effects, and compliance with the relevant legislation.</p> <p>Recommendation: Although most of the information in the Construction Method Statement is clear, some of the figures and inserts had poor resolution. These should be inserted in a high-resolution format, so that they are clear to the reader.</p> <p>Section 4.13 covers the assessment of impacts from decommissioning of the Proposed Development and sets out why this has been scoped out of the EIA. It is understood that the airport, once operational, would be a permanently functioning airport, and that the site would not be undertaking activities that require detailed decommissioning plans or assessment. The Planning</p>	<p>Noted, this has been updated where necessary and provided the Construction Method Statement and Programme Report Appendix 4.1 of the ES [TR020001/APP/5.02] and Chapter 4 The Proposed Development of the ES [TR020001/APP/5.01]. Where practicable, figures in the Construction Method Statement and Programme Report have been re-formatted to provided further clarity.</p>	

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		<p>Inspectorate agrees with this approach and therefore the detail provided within the PEIR is considered sufficient.</p> <p>This has resulted in the noise implications for the Proposed Development having to be assessed on current flight paths. Impacts associated with noise are being covered in the review of Chapter 16 of the PEIR. Comments on noise assessment will be provided there.</p>			
1 (d)	<p>a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases.</p>	<p>Chapter 4 The Proposed Development Sections 4.2 to 4.14</p>	<p>As outlined above, Chapter 4 of the PEIR provides adequate detail of the main operational characteristics of the development.</p> <p>Sections 4.12, provides a high-level overview of how the Proposed Development is expected to affect airport operations (i.e., impact on passengers and flights energy demand, water use). An overview is considered sufficient for this chapter, as more detail is provided in subsequent technical chapters and within the relevant supporting documents.</p> <p>Section 4.14 provides an overview of the interactions between airspace requirements and the responsibility of the Airspace Change Organising Group (ACOG) in developing a Masterplan for Airspace Change over the Southeast of England. It is understood that until the Masterplan is</p>	<p>Noted, this has been updated where necessary and provided in Chapter 4 The Proposed Development of the ES [TR020001/APP/5.01]. Consideration has also been given to the possible impact of future changes to flightpaths as a consequence of FASI-S on the size of the noise contours. Further information can be found in Chapter 5 Approach to Assessment of the ES [TR020001/APP/5.01].</p>	Yes

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		approved, all further proposals for airspace change for specific airports have to be placed on hold.			
11	an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.	Not available in Chapter 4	This information is described in the results of the technical assessments, and therefore, described in the relevant assessment chapters. We see no reason to duplicate the information in Chapter 4.	Noted, this has been updated where necessary and provided in Chapter 4 Proposed Development of the ES [TR020001/APP/5.01] .	No
2.	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Chapter 3: Alternatives and Design Evolution	Chapter 3 of the PEIR sets out the reasonable alternatives considered as part of the process in establishing the Proposed Development. It described how the preferred option was selected over alternatives and what considerations were considered during the design evolution, including environmental and other issues raised. Full consideration has been given to the reasonable alternatives studied (in terms of engineering design, including technology, location, size and design), including doing nothing (i.e., 'No Development'). Section 3.2.10 of the PEIR describes the sift process applied to the options appraisal. This process was comprised of three stages (Sift 1-3). The description of the methodology used is presented well and easy to understand. Sections 3.2.12 to 3.2.44 provide a breakdown of each sift and the	Noted, this has been updated where necessary and provided in Chapter 3 Alternatives and Design Evolution of the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		<p>qualitative criteria and strategic objectives on which each sift was based, which included scoring exercises and appraisals. Each section includes a number of inserts and tables, detailing the options tested and summary of sift results. The inserts and tables complement the appraisal well, making it clear how the Applicant arrived at their conclusions.</p> <p>Although the option of 'No Development' was not considered within the options sifting process, the Applicant has identified, through reference to the Aviation Policy Framework and Airports National Policy Statement, the reasons for discounting this from the sift. Further information on the need for the Proposed Development has been set out within the Draft Need Case published with the Statutory Consultation.</p>			
3.	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental	Chapter 5 Approach to the Assessment Chapters 6 to 20.	Chapter 5 of the PEIR (Approach to the Assessment) covers the EIA methodology, which describes how the common baseline conditions and future conditions have been defined, assessed and used to inform the description of existing environmental conditions within the defined study area for each study aspect (Chapter 6 to 20). It is assumed that changes to the baseline scenario will be assessed	Noted, this has been updated where necessary and provided in Chapters 5 Approach to the Assessment and 6 to 20 of the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
information and scientific knowledge.		<p>with reasonable effort on the basis of the availability of environmental information and scientific knowledge within the relevant chapters.</p> <p>Section 5.4.15 loosely describes how the current baseline conditions have been established. The baseline year has been established at 2019 and comprised of passenger throughput of approximately 18 mppa. Reference is made to the individual assessment chapters for details of specific visits and survey results, used to inform the assessment. The results from all baseline data collection and surveys are proposed to be included in the ES.</p> <p>Section 4.4.19 describes the approach taken to explore and establish a future baseline. The 'Do nothing' scenario has been used to establish a future baseline and scenarios for the Application Site without the Proposed Development. This is in line with Schedule 4 of the Infrastructure Planning EIA Regulations 2017. A future baseline scenario without the proposed development is described within each technical chapter of the PEIR, and therefore satisfies the above regulatory requirements.</p>		

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		Table 5.2 details the developments forming part of the future baseline.			
4.	A description of the factors specified in regulation 5(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	Chapter 5 Approach to the Assessment Chapters 6 to 20	Chapter 5, Section 5.3 of the PEIR provides an overview of the EIA Scoping process. Table 5.1 provides the list of aspects and matters scoped in, and those scoped out of the EIA. The topics scoped mirror those set out in Schedule 4, regulation 5(2) of the Infrastructure Planning EIA Regulations 2017. Those factors which are likely to be significantly affected by the development are detailed and addressed in chapters 6 to 20.	Noted, this has been updated where necessary and provided in Chapters 5 Approach to the Assessment and 6 to 20 of the ES [TR020001/APP/5.01] .	No
5.	A description of the likely significant effects of the development on the environment resulting from, inter alia: (a) the construction and existence of the development, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;	Chapter 5 Approach to the Assessment Chapters 6 to 21	Chapters 6 to 21 provide detailed descriptions of the likely significant effects. In identifying impacts, the Applicant has done so in accordance with the EIA Regulations (Ref: 5.17), i.e., taking account of: magnitude and special extent; nature of the impact; transboundary nature; intensity and complexity; probability; onset, duration, frequency and reversibility; cumulation; and avoiding or reducing. Sections 5.4.39 to 5.4.47 provide an overview and general guide on how effects (i.e., receptor value/sensitivity; magnitude of change; and	Noted, this has been updated where necessary and provided in Chapters 5 Approach to the Assessment and 6 to 21 of the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
<p>(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); I the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g) the technologies and the substances used. The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under</p>		<p>significance) are measured / assessed. It is accepted that some of these assessments will be based on professional judgement and therefore may vary. With this acknowledged, the descriptions of the method are still very clear.</p>		

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
	Council Directive 92/43/EEC and Directive 2009/147/EC.				
6.	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Chapter 5 Approach to the Assessment Chapters 6 to 20	<p>Chapter 5 of the PEIR (Approach to the Assessment) provides a general overview to the approach to assessing the likely significant effects. Section 5.4 of the PEIR provides an outline of general assumptions and limitations. Aviation and transport forecasting are discussed within this section, though details of the methodology used, and margins of error are described further within the 'Draft Need Case' and 'Getting to and from the airport'. These supporting documents are being reviewed separately. Known assumptions and limitations specific to individual assessments, including technical deficiencies and in some cases lack of available data / information are detailed in Chapters 6 to 20.</p> <p>Section 5.4.4 to 5.4.10 describes how parameters, uncertainty and flexibility have been considered (Rochdale (Design) Envelope approach & The Planning Inspectorates Advice Note Nine). Parameters and limits of deviation have been described and have been used to assess the maximum physical extents in the EIA, i.e., reasonable worst-case, physical extent and environmental impacts. Each aspect of assessment defines</p>	Noted, this has been updated where necessary and provided in Chapters 5 Approach to the Assessment and 6 to 20 of the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		within their methodology the reasonable worst-case which have been made as part of their assessment. These are detailed in Chapters 6 to 20. The descriptions in this chapter are clear and considered sufficient for the requirements of the PEIR. It is understood that a further description of the 'worst case' will be included in the ES.			
7.	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	Chapter 5 Approach to the Assessment Chapters 6 to 20	Chapter 5, Section 5.2.11 sets out the identification of mitigation measures. Section 5.4.48 includes a description of the measures envisaged to prevent or reduce any significant effects. The measures described acknowledge IEMA Guidance (Ref: 5.19) and professional best practice. Consideration is given to the following types of mitigation: Preliminary mitigation; Secondary mitigation, and Tertiary mitigation. The Applicant proposes include primary mitigation as part of the Proposed Development, which will take account of the initial assessment of effects of the EIA. Secondary mitigation will be secured through the DCO application (i.e., the Draft CoCP or appropriate management plans (each described in Chapters 6 to 20)). Tertiary mitigation will be implemented through processes of good practice and legislative requirements. Good practice mitigation will be considered	Noted, this has been updated where necessary and provided in Chapters 5 Approach to the Assessment and 6 to 20 of the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change	
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation			
		as part of the Proposed Development and included in the initial assessment of effects in the EIA.			
8.	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	Chapter 15 Major Accidents and Disasters.	Chapter 15 of the PEIR covers major accidents and disasters; see 15 where this is addressed.	Noted, this has been updated where necessary and provided in Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01] .	No
9	A non-technical summary of the information provided under paragraphs 1 to 8.	Chapter 1 – 5	Chapters 1 to 5 provide a background and non-technical summary of the information detailed within the technical chapters.	Noted, this has been updated where necessary and provided in Chapters 1 – 5 of the ES [TR020001/APP/5.01] .	No
10	A reference list detailing the sources used for the descriptions	References located at the	The references are labelled as 1.1, 1.2, 2.1, 2.2 etc to relate them to the chapter they are in.	Noted, this has been updated where necessary and provided throughout the ES [TR020001/APP/5.01] .	No

Consultee comment			Regard had to the consultee comment	Change
Infrastructure Planning EIA Regulations 2017 Schedule 4	Available in the PEIR (Location)	Comment / Recommendation		
	and assessments included in the environmental statement.	end of the PEIR		

B2 Air quality review checklist and summary

Note: 'Ref.' is to tables 2-5 and 2-6 of the WSP on behalf of host authorities response.

Table B2.1: Air quality

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.2 (Legislation, Policy and Guidance).</p> <p>Section 7.2 sets out the legislation, policy and guidance in a series of tables, which outline the relevant part(s) of each published document and summarise how and where it is addressed in the PEIR. In Table 7.1, the term 'standards' is introduced and thereafter used to refer to limit values. This is also an appropriate term for the relevant air quality objectives. There are two items of legislation omitted from Table 7.1, which should be considered in the ES:</p> <ul style="list-style-type: none"> • The Air Quality (England) Regulations 2000 (as amended 2002) as these regulations are still in place, setting out air quality objectives. • The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 which amends the limit value for PM_{2.5} as set under the Air Quality Standards Regulations 2010 from 25µg/m³ to 20µg/m³. Table 7.2 	<p>Legislation section to include those points has been updated in Table 7.1 in Chapter 7 Air Quality of the ES [TR020001/APP/5.01].</p> <p>Relevant guidance section to include those points has been updated in Table 7.5 in Chapter 7 Air Quality of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			<p>should also be amended to reflect this change.</p> <p>Relevant policy has been considered in Table 7.3. The ANPS has been considered in Table 7.4.</p> <p>Relevant guidance has been considered in Table 7.5, although neither the IAQM 'A guide to the assessment of air quality impacts on designated nature conservation sites' (May 2020) nor 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations, 2018' are included in the table – even though they are then referenced in Vol 3 Appendix 7.1 (Air Quality Assessment Methodology).</p>		
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.7 (Baseline Conditions), Vol 3 Appendix 7.2 (Air Quality Baseline Data). A desk-based review has been undertaken. This references publicly available sources made available by Defra (including UK Air website and National Atmospheric Emissions Inventory), the local authorities (within the study area), the Environment Agency and Natural England. There is no consideration of Defra Pollution Climate Mapping model roadside annual mean NO₂ concentrations and limit value compliance within the study area. This should be addressed in the ES. Reference is also made (paragraph 7.5.4) to an ongoing baseline monitoring survey for NO₂ at 11 locations and VOCs at 5 locations. This is to supplement local authority monitoring where there are gaps around the</p>	<p>Defra Pollution Climate Mapping model roadside concentrations and compliance within the study area has been considered in Section 7.7 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01].</p> <p>A note on which pollutants were included in the study and why has been added to Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			airport. The relevance of VOCs to the air quality assessment is questionable as the impacts of the proposed development on these pollutants have not been considered beyond the baseline. Data from an LLAOL automatic monitoring station has also been considered. 'Sniff testing' has been undertaken to establish the odour baseline.		
2.2	Do the data collection methods follow relevant guidance?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.2 (Air Quality Baseline Data).</p> <p>It is not clear what established best practice guidance has been/is being followed in undertaking scheme specific baseline monitoring. This should be addressed in the ES.</p> <p>The term “<i>Air quality objective</i>” is incorrectly used when referring to toluene, ethylbenzene, xylene compounds and naphthaline. The comparative benchmarks that are given as the “<i>Air quality objective</i>” in Tables 1.19 – 1.23 are the same as current Environmental Assessment Levels (EAL), published by the Environment Agency. However, the relevance of VOCs to the air quality assessment is questionable as the impacts of the proposed development on these pollutants have not been considered beyond the baseline.</p>	The guidance followed for the scheme specific baseline monitoring is detailed in Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] and the terminology around VOC EALs has been updated in Tables 1.19 – 1.23 in the Air Quality Methodology in Appendix 7.1 of the ES [[TR020001/APP/5.02] .	Yes
2.3	Is the study area identified appropriately?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.3 (Scope of the Assessment).</p> <p>Except for construction traffic emissions, the rationale for defining the study areas has been explained. Appropriate guidance as published by the Institute of Air Quality Management (IAQM) and Environmental</p>	The determination of the study area is provided in Section 7.3 and 7.5.19 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] , including the rationale for construction traffic emissions.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			<p>Protection UK (EPUK) has been referenced with regard to determining study areas for construction dust and operational road traffic emissions impacts. However, it is not clear if a study area for construction traffic emissions impacts has been defined separately (paragraph 7.3.6 only refers to ‘operational emissions’). Rationale for a 15km by 15km ‘zone of influence’ (centred on the airport) for airport operations of has been provided, although the first sentence in paragraph 7.3.10 is incomplete.</p> <p>Impacts from airport operations and road traffic emissions have then been addressed within the 15km-by-15km area. Operational road traffic emissions have also been addressed beyond this where changes in traffic meet IAQM/EPUK assessment criteria, including roads within Dunstable, and the M1 to the north up to junction 13 and south up to junction 6A with the M25.</p>		
2.4	Have all the resources/receptors been considered?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 paragraphs 7.3.14 – 7.3.19, Vol 3 Appendix 7.1 (Air Quality Methodology), Figure 7.3a (human receptors), Figure 7.3b (ecological receptors), Figure 7.3c (heritage receptors), Vol 3 Appendix 8.3 (Habitats Regulations Assessment No Significant Effects Report). Human receptors have been selected including residential properties and schools within 200m of affected roads, and below flight paths within the 15km-by-15km zone of influence.</p> <p>The selected human receptors in Appendix 7.1 Table 2.1 do not include any hospitals</p>	<p>The human receptors included in the assessment are detailed in Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01], including relevant hospitals and residential care homes.</p> <p>The ecological receptors included in the assessment are detailed in Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01], including the rationale used, with cross</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			<p>and residential care homes. Either there are none or they have not been included for some reason. This should be clarified in the ES.</p> <p>Ecological receptors have been identified including statutory and non-statutory designations within 200m of affected roads. It is not clear in Appendix 7.1 if ecological receptors have been considered under flight paths within the 15km-by-15km zone of influence, although from Figure 7.1b it would appear that they have. Appendix 7.1, Table 2.2 does not include any European Sites; however, cross checking against Appendix 8.3 indicates this to be appropriate as no pathways for effect were identified for any of the European Sites within the 30km HRA search area. Comprehensive cross referencing should be included to aid the reader. Two cultural heritage receptors are included: Luton Hoo and Someries Castle.</p>	<p>references to relevant chapters and Appendices.</p>	
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.3 Paragraphs 7.3.14 – 7.3.19, Vol 3 Appendix 7.1 (Air Quality Methodology). In considering receptors for construction dust assessment, appropriate reference is made to the relevant IAQM guidance.</p> <p>In relation to impacts from road traffic and airport associated emissions, all selected human receptors are considered to have the same sensitivity. The same for ecological receptors. This is considered appropriate.</p>	<p>Noted. This has also been produced for the ES in Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01].</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
2.6	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.3 Paragraphs 7.3.14 – 7.3.19, Vol 3 Appendix 7.1 (Air Quality Methodology). In considering receptors for construction dust assessment, appropriate reference is made to the relevant IAQM guidance.</p> <p>In relation to impacts from road traffic and airport associated emissions, all selected human receptors are considered to have the same sensitivity. The same for ecological receptors. This is considered appropriate.</p>	Noted.	No
2.7	Is the future baseline scenario adequately described?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.7 (Baseline) paragraphs 7.7.21 – 7.7.22, Vol 3 Appendix 7.3 (Air Quality Results).</p> <p>The future baseline scenario has only been described in terms of methodology. No description of future baseline conditions is presented. A description should be included based on the future baseline modelling results (Appendix 7.3), assumptions concerning future activities, and background pollutant levels. This should be addressed in the ES.</p>	The future baseline scenarios are described in Section 7.7 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	Yes
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.6 (Assumptions and Limitations), Vol 3 Appendix 7.1 (Air Quality Methodology).</p> <p>Assumptions and limitations are set out in Table 6.1 of Appendix 7.1. Any further detail will be addressed in the ES. Assumptions are given for the 'Reasonable Worst Case' scenarios for phases 1, 2a and 2b of construction, and the operational phase</p>	Noted. Assumptions and limitations are presented in Section 7.6 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			where vehicle emissions do not improve beyond 2030.		
2.9	Which are the key receptors for the local authorities?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.4 (Stakeholder Engagement and Consultation).</p> <p>Table 7.7 indicates that actions agreed on 26 April 2021 included clarification of receptor selection. There is no further information provided on this. This should be addressed in the ES.</p>	Key receptors for local authorities include those in AQMAs. The rationale for receptor selection has been provided in Section 7.4 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] and this has been presented in the Air Quality Technical Working Group, of which local authorities are members. This is evidenced in Table 7.7 of Chapter 7. The results at these receptors are provided in the Air Quality Results in Appendix 7.3 of the ES [TR020001/APP/5.02] .	Yes
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.8 (Embedded and Good Practice Mitigation Measures), Vol 3 Appendix 4.2 (Draft Code of Construction Practice), Vol 3 Appendix 7.4 (Draft Air Quality Plan). Embedded mitigation for construction and operational phases are set out in paragraphs 7.8.2 – 7.8.5.</p> <p>Good practice measures to address dust and construction emissions (including odour) have been clearly set out in Appendix 4.2 and Appendix 7.4, and operational airside and surface access emissions have been clearly set out in Appendix 7.4.</p>	Noted. This has also been produced for the ES in the Outline Operational Air Quality Plan in Appendix 7.5 of the ES [TR020001/APP/5.02] and the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] .	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
3.2	Are the mitigation measures included for significant adverse effects appropriate?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.10 (Additional Mitigation), Vol 3 Appendix 4.2 (Draft Code of Construction Practice), Vol 3 Appendix 7.4 (Draft Air Quality Plan).</p> <p>Appropriate industry standard measures, as recommended by IAQM, have been set out to address construction dust effects. These are set out in Appendix 7.4 and Appendix 4.2. Appropriate industry standard measures have been set out to address potential odour emissions from contaminated materials during the construction phase in Appendix 4.2.</p> <p>Operational effects have been identified as not significant and as such do not require additional mitigation.</p>	Noted. This has also been produced for the ES in the Outline Operational Air Quality Plan in Appendix 7.5 and the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] , although no significant impacts were found.	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.8 (Embedded and Good Practice Mitigation Measures), Vol 1 chapter 7 section 7.10 (Additional Mitigation), Vol 1 Chapter 5 (Approach to the Assessment) paragraphs 5.4.50 – 5.4.54.</p> <p>Section 7.8 includes appropriate cross reference to Chapter 5 which – in paragraphs 5.4.50 – 5.4.54 – sets out how mitigation measures will be secured and implemented. Section 7.10 does not cross reference to Chapter 5. The ES should include comprehensive cross referencing and signposting to aid the reader.</p>	This has also been produced for the ES in the Outline Operational Air Quality Plan in Appendix 7.5 of the ES [TR020001/APP/5.02] and the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] . Comprehensive cross referencing has been added to the ES.	Yes
3.4	Does the PEIR refer to monitoring requirements where it would be	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.13 (Monitoring), Vol 3 Appendix 4.2 (Draft Code of Construction Practice).	Noted. This has also been produced for the ES in the CoCP (Appendix 4.2 of the ES)	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
	considered as being required / appropriate?			[TR020001/APP/5.02]) and a monitoring strategy has also been provided as part of the Green Controlled Growth Framework [TR020001/APP/7.08] .	
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	N/A	Relevant sections of PEIR: Vol 3 Appendix 7.4 (Draft Air Quality Plan), Section 3.4 (Surface Access). “a. Increase the total number of vehicle electrical charging points in staff and passenger car parks.” It is suggested that there is a clear commitment on the numbers of active charging points to be in place by 2027, 2039 and 2043.	The Outline Operational Air Quality Plan in Appendix 7.5 of the ES [TR020001/APP/5.02] has been updated to include clear commitments for electrical vehicle charging points.	Yes
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.1 (Air Quality Methodology). Section 7.5 outlines and cross refers to Appendix 7.1 which includes the detail.	Noted.	No
4.2	Are the methods for establishing the ‘magnitude’ of effects on the receiving environment clearly defined?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.1 (Air Quality Methodology). Section 7.5 outlines and cross refers to Appendix 7.1 which includes the detail.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.1 (Air Quality Methodology). Section 7.5 outlines and cross refers to Appendix 7.1 which includes the detail.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	B	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.1 (Air Quality Methodology).	The details of how ammonia has been appropriately considered is provided in Section 7.5 of Chapter	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			<p>The assessment aligns with relevant assessment guidance published by IAQM, EPUK and Defra (LAQM.TG(16)). Other appropriate technical guidance for calculating emissions is also referenced.</p> <p>Appendix 7.1 paragraph 3.2.5 states “Ammonia emissions from road traffic can also affect the nitrogen deposition at ecological sites. There is no guidance currently on the assessment of ammonia emissions and there are no government assessment tools. For the PEIR, ammonia emissions from road traffic were not calculated. Consultation with Natural England on the method for assessing ammonia emissions for the ecological sites will be carried out and any updates to the methodology will be included in the ES. Ammonia is only emitted from road vehicles as a by-product of the diesel engine gas treatment; it is not emitted from aircraft engines.” This is sensible. At present, the only practical way of accounting for ammonia emissions from road vehicles is to use Air Quality Consultants Ltd CREAM tool although this is not an officially sanctioned tool.</p> <p>With reference to Appendix 7.1 paragraphs 2.7.7 and 3.2.6, explanation is required in relation to the use of Clapp and Jenkin methodology for NO_x to NO₂ conversion, over other methods. This should be addressed in the ES.</p>	<p>7 Air Quality of the ES [TR020001/APP/5.01]. The rationale for the use of Clapp and Jenkin methodology for NO_x to NO₂ conversion has been added to the Air Quality Methodology in Appendix 7.1 of the ES [TR020001/APP/5.02].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
4.5	Have potential effects been considered both during construction and operation?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.5 (Methodology), Vol 3 Appendix 7.3 (Air Quality Results). -	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.9 (Preliminary Assessment) and Section 7.14 (preliminary assessment summary), Vol 3 Appendix 7.1 (Air Quality Methodology), Vol 2 Chapter 8 (Biodiversity) section 8.9 (Preliminary Assessment). In Section 7.9, all predicted impacts at human receptors have been described as “negligible” or “slight adverse”, giving an effect that is not significant. The term ‘minor’ should be used in place of ‘slight’ as per the impact descriptors in Appendix 7.1 Table 3.1. Whilst no additional description of negligible impacts is required, no indication is given of the likely duration or reversibility of “slight” (i.e., ‘minor’) adverse impacts. There is also no mention of probability of impacts although it is usual to simply consider the probability of all reported impacts as ‘likely’. This should be addressed in the ES.</p> <p>In Section 7.9, some predicted impacts at ecological receptors have been determined as not exceeding 1% of the relevant critical level/lower critical load. These impacts should be described as ‘negligible’. For impacts that exceed 1% of the relevant critical level/lower critical load it is stated that the “results have been passed to the project ecologist to determine significance”; this is correct procedure. These non-negligible impacts have been considered in Chapter 8 Section 8.9.</p>	Section 7.9 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] has been updated to address these comments.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.9 (Preliminary Assessment), Vol 2 Chapter 8 (Biodiversity) Section 8.9 (Preliminary Assessment).</p> <p>No significant effect is predicted for human receptors. Before consideration of additional mitigation, significant effects due to air quality impacts have been identified in Section 8.9 at some of the ecological receptors based on appropriate evidence and professional judgement.</p>	Noted. This has also been provided in Section 7.9 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	No
4.8	Are the residual significant effects clearly stated?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.11 (Residual Effects), Vol 2 Chapter 8 (Biodiversity) Section 8.11 (Residual Effects).</p> <p>Section 8.11 should be cross referenced regarding residual effects at ecological receptors. This should be addressed in the ES.</p>	This has also been provided in Section 7.11 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] with relevant cross references.	Yes
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	A	Relevant sections of PEIR: Vol 2 Chapter 21 (In-Combination and Cumulative Effects) Table 21.12.	Noted. This has also been provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] .	No
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	Further discussion of the uncertainties in the modelling of operational impacts should be included in the ES.	This has been provided in Sections 7.5 and 7.6 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	Yes
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.3 (Scope of the Assessment) paragraphs 7.3.2 – 7.3.4, Table 7.6.	Noted. This has also been provided in Section 7.3 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	<p>Relevant sections of PEIR: Vol 1 Chapter 7 Section 7.14 (Preliminary Assessment Summary) Table 7.12, Vol 2 Chapter 8 (Biodiversity) Table 8.14.</p> <p>In the ES, the summary of operational effects should be provided for each phase. The summary for operational effects has been presented separately for airport and road sources whereas the combined effects should be presented. Conclusions for odour have been omitted when they should be included.</p> <p>Given that the impacts and effects at ecological receptors are addressed in Chapter 8 Section 8.9 and Table 8.14, the summary in Section 7.14 should just provide a cross reference and the summary of effects at ecological receptors in Table 7.12 should be omitted. These matters should be addressed in the ES.</p>	Section 7.14 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] has been updated to address these comments.	Yes
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Relevant sections of PEIR: Vol 1 Chapter 7 Table 7.12, Vol 2 Chapter 8 (Biodiversity) Table 8.14.	Noted. This has also been provided in Section 7.14 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	In general, yes, although the presentation of the findings of operational impacts at ecological receptors are rather hard to follow. This should be addressed in the ES.	The ES has been updated with relevant cross references.	Yes
6.2	Is the PEIR readable to the audience for which it is intended?	B	As above.	The ES has been updated with relevant cross references.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B	<p>The NTS mostly reflects the findings although Section 7.4 (Completing the Assessment) does not align with Vol 1 Chapter 7 Section 7.15 (Completing the Assessment) points a. and b. This should be addressed in the ES.</p> <p>7.4 Completing the assessment</p> <p>7.4.1 In order to complete the air quality assessment, the following will be undertaken:</p> <ul style="list-style-type: none"> a. further modelling of updated forecast aviation and surface access traffic data will be undertaken of a 'faster growth' scenario; <p style="text-align: right;">Page 17</p> <hr/> <p style="font-size: small; text-align: center;">London Luton Airport Expansion Development Consent Order Preliminary Environmental Information Report Volume 1: Non-technical Summary</p> <ul style="list-style-type: none"> b. an assessment of the ecological sites including consideration of the potential ammonia (NH₃) changes as a result of the Proposed Development; c. a sensitivity test using terrain data to determine the impacts of the Proposed Development, whilst taking account of the landform around the airport; and d. contour plots to visualise the total concentrations predicted in each Phase. <p>7.15 Completing the assessment</p> <p>7.15.1 The following activities will be undertaken to complete the assessment, the results of which will be presented in the ES:</p> <ul style="list-style-type: none"> a. assessment of change in concentrations predicted to occur as a result of the Proposed Development. The changes in pollutant concentrations where the population would be exposed will be assessed by identifying the number of properties exposed to changes within bands based on a percentage of the relevant annual mean standards; b. assessment of NRMM and any proposed batching plant to be used in the construction of the Proposed Development; c. appropriately consider the potential impact from ammonia (NH₃) where necessary and required, as a result of the Proposed Development; d. a sensitivity test using terrain data in the modelling to determine the impacts of considering the topology in the vicinity of receptors and the airport; and e. contour plots to visualise the total concentrations predicted in each phase. 	The points for completing the assessment in the PEIR are now discussed in Section 7.14 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] . This removes the mentioned section from the NTS.	Yes
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	C	<p>The NTS mostly reflects the findings although Section 7.4 (Completing the Assessment) does not align with Vol 1 Chapter 7 Section 7.15 (Completing the Assessment) points a. and b. This should be addressed in the ES.</p>	The points for completing the assessment in the PEIR are now discussed in Section 7.14 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] . This removes the mentioned section from the ES NTS [TR020001/APP/5.04] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	Figure 7.3b would benefit from showing the designated site boundaries. These should be included for the ES.	A figure with the site boundaries has been provided.	Yes
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	-	Noted.	No
Conclusion					
	Legislation, Policy and Guidance	B	To include in ES: Air Quality Regulations Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 IAQM and NE guidance on assessing impacts at ecological receptors.	Legislation has been updated in Table 7.1 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] . Relevant guidance has been updated in Table 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	Yes
	Baseline Information	B	Limit value compliance with reference to Defra PCM modelled road links within the study area should be reviewed in the ES. Future baseline conditions should be fully addressed. This should be with reference to national forecasts (including PCM model and NAEI), consideration of long-term trends in monitoring data and extrapolation, and the results of future year baseline modelling.	The future baseline scenarios are described in Section 7.5 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] . Defra Pollution Climate Mapping model roadside concentrations and compliance within the study area has been discussed in Sections 7.7 and 7.9 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] .	Yes
	Mitigation, Enhancement and Monitoring	B	For ES, ensure comprehensive cross referencing to other chapters etc.	The ES has been updated with relevant cross references.	Yes
	Assessment of Significant Effects	B	For ES, explain why Clapp and Jenkin NOx to NO2 method used in preference to others	The rationale for the use of Clapp and Jenkin methodology for NOx to	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	Review	Comments		
			and ensure comprehensive cross referencing to other chapters etc.	NO ₂ conversion is provided in the Air Quality Methodology in Appendix 7.1 of the ES [TR020001/APP/5.02] . The ES and supporting appendix have been updated with relevant cross references.	
	Conclusions	B	In the ES, the summary of operational effects should be provided for each phase. The summary for operational effects should be presented for airport and road sources together (not separately). Conclusions for odour should be included. Whilst the AQ impacts at ecological receptors are quantified in Chapter 7, the conclusions drawn by the ecologist should be presented in Chapter 8 only. Chapter 7 should simply cross reference these conclusions.	Section 7.14 of Chapter 7 Air Quality of the ES [TR020001/APP/5.01] has been updated to address these comments, with relevant cross references.	Yes
	Presentation (including Figures and Appendices)	B	Figure 7.3b would benefit from showing the designated site boundaries.	A figure with the site boundaries has been provided.	Yes

B3 Traffic and transportation review checklist and summary

Note: 'Ref.' is to tables 2-7 and 2-8 of the WSP on behalf of host authorities' response.

Table B3.1: Traffic and transport

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statements?	A	<p>Table 18.3 provides an overview of relevant legislation and policy and where it has been applied. In terms of the Transport Chapter the following guidance is referenced:</p> <ul style="list-style-type: none"> • Airports National Policy Statement (ANPS) June 2018 • NPS for National Networks - December 2014 – proposed works at M1 Jn10 so referred to as a 'relevant consideration' • Aviation Policy Framework (APF) – March 2013 • National Planning Policy Framework (NPPF) – 2021 • Luton Local Plan (2011-2031) • Luton Local Transport Plan (2011-2026) • Local Plan for Central Bedfordshire (2015-2035) – assessed as not relevant • North Herts District Local Plan No2 (1996) – assessed as not relevant • Hertfordshire Local Transport Plan (2018-2031) <p>Guidance is also referenced in Chapter 18 as follows:</p>	<p>Reference to the emerging North Hertfordshire Local Plan has been made in Chapter 18 Traffic and Transportation of the ES TR020001/APP/5.01. Documents by the Hertfordshire Growth Board are not referenced as such documents would not typically be referenced in Transport Assessments.</p> <p>Reference to TAG has been made in Chapter 18 Traffic and Transportation of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Institute of Environmental Assessment (IEA, now Institute of Environmental Management (IEMA) guidance notes 1 – Guidelines for the Environmental Assessment of Road Traffic Volume 11 of Design Manual for Roads and Bridges (DMRB)</p> <p>DfT Circular 02/2013: strategic Road Network and the delivery of sustainable development</p> <p>The reference to WebTAG (now TAG) should be provided in para 18.2.1</p> <p>The PIER does not appear to refer to the emerging North Hertfordshire Local Plan, nor the evidence basis for the emerging plan, nor to any relevant plans of the Hertfordshire growth board.</p>		
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	<p>High level details of the 2017 data collection exercise are identified and described. These are also reported separately in the data collection report which WSP has not had sight of, and in the LMVR which WSP have seen, and which has previously been signed off by Local Authorities and National Highways.</p>	<p>Noted. The data collected for the VISSIM modelling was included within the LMVR. This has previously been provided to WSP and the host authorities.</p>	No
2.2	Do the data collection methods follow relevant guidance?	A	<p>From the description in the LMVR the approach seems to be reasonable. The locations of the traffic data and development of the matrices / how it has been applied in the model update could further verify the suitability of the exercise. WSP has not reviewed the data collection.</p>	<p>Stakeholder engagement with the four highway authorities (National Highways, LBC, CBC, and HCC) whose roads were most likely to carry the bulk of the additional airport traffic was undertaken on a regular and frequent basis and included presentations and discussions regarding the data collection and the development of the VISSIM and strategic models</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.3	Is the study area identified appropriately?	A	The extent of the assessed highway network (study area) referred to as the 'Fully Modelled Area' is identified as an area agreed with the four local authorities as part of the scoping exercise for the TAR (para 18.3.15). The assumptions regarding the identification of the study area seem to be reasonable. Section 18.7 provides an overview of the baseline conditions including a description of the connections surrounding the airport.	Noted.	No
2.4	Have all the resources/receptors been considered?	B	Receptors with high sensitivity are identified in the vicinity of highway links with an increase in traffic of more than 10%. A1081 to M1, Vauxhall Way and Airport Way low sensitivity. M1 Jn10 and other links medium sensitivity. Effect on rail services considers passengers travelling on services calling at Luton Airport Parkway Station only. Effect on existing bus users has not been considered. Receptors that are more remote from the airport site have not been included, notably in Hertfordshire	Noted. The effect on passengers travelling on services has not been assessed because this would only occur where passengers have changed trains and this is only likely within London or at Kettering by which time the overall number of passengers on the trains will have reduced. More detail on rail loadings within Hertfordshire is provided in the Transport Assessment [TR020001/APP/7.02] .	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	Yes - +/- 30% increase in areas of moderate sensitivity / +/-10% in high sensitivity	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	A	Inspectorate issued Scoping Opinion on 9 May 2019. Table 18.6 lists main comments and how these are covered in the PEIR. Stakeholder consultation is reported as being undertaken with: Highways England / National Highways Luton Borough Council. Central Bedfordshire Council	With regard to the expected patronage loadings the discussions concentrate on the operators rather than Network Rail. As noted, contact has been made with both GTR and East Midlands Railway.	No

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			<p>Hertfordshire County Council Buckinghamshire County Council</p> <p>No discussions with Network Rail undertaken to date – these will be necessary to agree the expected patronage loadings can be accommodated. Stakeholder consultation is ongoing, and contact has been made with GTR.</p>		
2.7	Is the future baseline scenario adequately described?	C	<p>Transport modelling and forecasting is described as following TAG methodology which is reported in the public transport model and validation reports. WSP have raised some questions with Arup regarding the detailed methodology and scenarios generated in their meeting 25.03.2022. Once we have these responses, we can provide a more detailed response.</p> <p>Analysis of future rail demand is not clearly reported whether the effect of the airport has been treated in isolation without a proper understanding of the other demand and growth in rail travel on the Thameslink and EMR networks. E.g. inset 18-8, 18-9 and Table 18.18 and the corresponding tables and diagrams for the years after 2027. An order of magnitude of passenger numbers would be helpful to identify trains that are over-capacity or will become over-capacity as a result of the airport growth. There is a heavy reliance on the Public Transport (rail) mode share to support the passenger growth, but it is not entirely clear how this impacts existing routes and services.</p>	<p>The comments regarding the transport modelling and forecasting have been responded to in a separate conversation with WSP in relation to the Transport Assessment [TR020001/APP/7.02]. Further information can be found in the surface access Table 14.1 in Appendix N of this Consultation Report.</p> <p>The PEIR described how it is not possible to use historic data to predict future loadings on the rail service because of the introduction of the EMR Connect service and the change in travel patterns following the pandemic. Therefore, it has been necessary to use professional judgement in considering the effect on the rail service.</p>	No

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			WSP have raised a number of queries relating to the rail capacity work undertaken and Arup have agreed to provide additional information to respond to these, but due to short timescales this will be expected after the consultation deadline.	A presentation describing the work that had been undertaken to establish to proportion of air passengers who would use the rail service was made to National Highways, LBC, CBC, and HCC on 24 June 2022.	
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	C	<p>Reasoned judgement has been used in the PEIR on receptors that have low magnitude impacts on receptors of high sensitivity being minor or moderate Traffic modelling assumes highway works proposed by LBC as part of the East Luton Study will be implemented and form part of the future baseline against which the airport impact is assessed. This may be unrealistic in terms of funding for delivery. A full review of the schemes included for each forecast year needs to be fully understood.</p> <p>Assumptions and limitations are listed in 18.6 with the following having direct impacts on the traffic levels being assessed in the PEIR, these assumptions are not fully substantiated by the information and data analysis that has been provided, further information is requested to be able to accept these as valid for the purposes of the traffic and other assessments being made:</p> <ul style="list-style-type: none"> • Public transport mode share for passengers of 45% • Public transport mode share for employees of 40% 	The comments regarding the transport modelling and forecasting have been responded to in a separate conversation with WSP in relation to the Transport Assessment [TR020001/APP/7.02] . Further information can be found in the surface access Table 14.1 in Appendix N of this Consultation Report.	No

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	Aspect being reviewed	WSP code	Comments		
			<p>Public transport operators provide the services to meet demand. Design year of 2039 without airport expansion requires some form of motorway capacity improvement on M1 between junctions 9 and 10, this has been included in the modelling, but there is not an approved scheme for this, nor is there funding for it. The assumed highway schemes that have no funding allocated will also have an impact. The assumptions will be fully justified as part of the TAR. All assumptions have been discussed with the relevant authorities. The approach that has been adopted regarding the M1 capacity has been agreed with National Highways.</p> <p>WSP have raised a number of queries relating to the transport modelling work undertaken, some have been resolved and [the Applicant] has agreed to provide additional information in response to queries, but due to short timescales this will be expected after the consultation deadline and we can provide a full response at that time.</p>		
2.9	Which are the key receptors for the local authorities?	N/A	All existing areas of local congestion both on the highway, bus and rail networks The Air Quality Management Areas on Stevenage Road and Paynes Park Roundabout in Hitchin.	These are not receptors. They are areas in which receptors may experience an environmental effect.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid,	C	WSP have raised a number of queries relating to the transport modelling work undertaken, some have been resolved and	Further engagement has been held with WSP and the host authorities as detailed in Table 18.6 of	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	reduce, or offset significant adverse effects of the proposed development?		[the Applicant] has agreed to provide additional information in response to queries, but due to short timescales this will be expected after the consultation deadline and we can provide a full response at that time.	Chapter 18 Traffic and Transportation of the ES [TR020001/APP/5.01].	
3.2	Are the mitigation measures included for significant adverse effects appropriate?	N/A	There is a lack of information as to how mitigation measures have been identified. WSP have raised a number of queries relating to the transport modelling work undertaken, some have been resolved and [the Applicant] has agreed to provide additional information in response to queries, but due to short timescales this will be expected after the consultation deadline and we can provide a full response at that time.	The 2022 PEIR provided detailed descriptions of mitigation measures that are to be provided to offset the impact of the additional traffic. Further information is included within Chapter 18 Traffic and Transport of the ES [TR020001/APP/5.01].	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	N/A	<p>This relates to the mitigation of the significant adverse effects, of which there are none. No mitigation measures are proposed – all highway interventions form part of the development scheme.</p> <p>Several additional measures are considered as part of the Emerging Transport Strategy which will require significant buy-in from 3rd parties, how these will be secured and funded is not developed at this stage, but there is an intention to do this. Further expansion of rail capacity to accommodate demand is covered only in reference to potential east-west rail link, opportunities for further service expansion may need to be explored if demand outstrips supply. WSP have raised a number of queries relating to the transport modelling work undertaken, some have been resolved and [the Applicant] has agreed to provide additional information</p>	<p>Queries regarding mitigation measures have been addressed via an exchange of correspondence with WSP:</p> <p>a. Written responses were provided to WSP on 7 April 2022.</p> <p>b. WSP provided further comment on 22 April 2022 and a further written clarification was provided to WSP on 26 May 2022.</p> <p>c. WSP provided further correspondence on 8 June 2022 and a written response provided on 29 June 2022.</p> <p>d. WSP provided further correspondence on 6 July 2022 and these were addressed at a follow-up call on 14 September 2022.</p>	Yes

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	Aspect being reviewed	WSP code	Comments		
			in response to queries, but due to short timescales this will be expected after the consultation deadline and we can provide a full response at that time.	The mitigation strategy has been developed by considering the impacts of the Proposed Development incrementally over time as the airport grows and adding improvements where the incremental growth shows a need for interventions. This is addressed in the Modelling Approach to Road Traffic Forecasts (Section 10) of the Transport Assessment TR020001/APP/7.02].	
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	C	<p>For the construction phase a draft Construction Traffic Management Plan has been prepared – currently light on details but good practice would suggest monitoring and implementation of further mitigation measures would be integral to this process.</p> <p>Further information and detail expected in the EIA. A Construction Workers Travel Plan is also proposed.</p> <p>For the operational stage a Framework Travel Plan is proposed, however this is primarily aimed at managing employee travel accessing the airport.</p> <p>The Emerging Transport Strategy provides targets for the passenger mode shares but monitoring is light on detail and needs further consideration.</p> <p>Links with the plans for Green Controlled Growth also provides a good basis for monitoring going forwards. However, the</p>	<p>The Outline Construction Traffic Management Plan in Appendix 18.3 of the ES [TR020001/APP/5.02] is in outline and therefore does not contain full details, these will be developed by the contractor prior to construction. Monitoring requirements have been set out in Section 6.1.</p> <p>The form and extent of the Framework Travel Plan has been discussed in detail with the four highway authorities and North Herts Council in a series of Travel Plan workshops. The final version of the Framework Travel Plan [TR020001/APP/7.13] includes detail on the monitoring of mode shares and traffic flows in sensitive areas and reflects the observations of the parties involved in the workshops. The Surface Access Monitoring Plan which forms part of</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
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			methods for review, securing funding and restricting growth need further consideration.	the Green Controlled Growth Framework [TR020001/APP/7.08] , sets out how the Applicant will monitor and ensure the public transport mode share commitments for passengers and employees are achieved.	
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	N/A	<p>The above documents need to be more comprehensive to include monitoring methods and potential additional measures that could be implemented to achieve the target / estimated / assumed mode shares and resulting traffic generation associated with the development.</p> <p>Methods for links with controlling growth when targets are not met need greater consideration and the funding sources for additional mitigation enhancements should be well-defined. There is some reliance on third-party buy-in to deliver the aspirations. The additional public transport improvements (bus and coach) need to be better defined to demonstrate that the proposed demand can be accommodated in the future.</p> <p>There needs to be more focus on sensitivity tests should demand for public transport/vehicular access to the airport be greater or less than expected to identify a series of trigger points where appropriate. [The Applicant] has agreed that additional sensitivity tests can be run prior to the application to satisfy the specific needs of the local authorities.</p>	<p>More detailed information is provided in the Surface Access Strategy [TR020001/APP/7.12] and the Framework Travel Plan [TR020001/APP/7.13] supporting the application for development consent and these reflect discussions during the Travel Plan Workshops and further development of the Green Controlled Growth Framework [TR020001/APP/7.08] following the consultation exercise.</p> <p>Additional sensitivity testing has been undertaken and is described in Chapter 5 Approach to Assessment of the ES [TR020001/APP/5.01] including:</p> <ul style="list-style-type: none"> - Faster and slower growth - Passenger demand rises quicker than forecast in the Core Planning Case and higher passenger throughput occurs earlier than predicted, or passenger growth rises slower and a given passenger throughput is achieved later than forecast. 	Yes

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				<ul style="list-style-type: none"> - J10 without National Highways Smart Motorway upgrade (hard shoulder running scheme) - This sensitivity test assumes that all lane running is not delivered and the M1 continues to operate as is. - Strategic model growth applied to local model. This relates to different levels of demand in the strategic and local models. The local authorities requested a sensitivity test where the growth from the strategic model is incorporated in to the local VISSIM model to provide further confidence in the proposed mitigation measures. 	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	B	<p>Assessment methodology is provided in 18.3, being based on construction stage and full operational stage and on the net change in journeys as a result of the proposed development. Methodology follows standard practice and uses the following key areas:</p> <ul style="list-style-type: none"> Severance Pedestrian Delay Pedestrian Amenity Driver stress and delay Accidents and safety Hazardous loads <p>Impact is considered on road and transport users including public transport, cyclists and pedestrians as well as drivers and passengers of vehicles and those living close</p>	The mode share has not been determined by the models. The target mode shares were established separately, and the process has been explained to the Host Authorities. Further information is provided in the Transport Assessment [TR020001/APP/7.02] .	No

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	Aspect being reviewed	WSP code	Comments		
			to the highway network Table 18.4 provides details of how the ANPS requirements are addressed in the PEIR for transport. Within this it suggests that for the tested scenarios 'These flows reflect the targets that have been adopted to achieve the mode shift.' This suggests that the vehicular traffic is informed by the imposed mode share target rather than the multi-modal model. Best practice would take the multi-modal model outcomes, it is not known whether this method would provide a significantly different outcome		
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Section 1.3 of Appendix 18.1 of vol 3 of the PEIR gives the general classification of magnitude of impact.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	B	1.3.2 gives the general classification for evaluating the significance. For Transport the significance is based on the IEMA guidelines to delimit the scale and assessment of impacts. These are based on defined highway link flow changes and subject to professional judgement. The significance effects have been determined using a combination of the magnitude and sensitivity with significance ratings of Major and Moderate or above considered significant. The impact on existing public transport users, notably rail and bus is considered by this assessment. The most sensitive users and those primarily covered in the assessment are sensitive groups including children/elderly/disabled; sensitive location including hospitals, churches, schools,	Noted.	No

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			historic buildings; people walking and cycling. This provides a reasonable assessment of the most sensitive and it is also recognised that certain train / bus journeys may become more stressful if growth in supply does not meet demand for these services.		
4.4	Do the assessment methods used follow relevant guidance?	A	The assessment methods do follow relevant guidance.	Noted.	No
4.5	Have potential effects been considered both during construction and operation?	B	The document states that separate assessments for construction and operational phases have been undertaken and these are presented. The peak construction traffic has been included in the 2027 strategic model. Construction flows have not been included in the VISSIM modelling. The construction traffic peaks are generally contributing traffic in the off-peak period and the impacts are identified for the off-peak in Table 18.15 for 2027. Construction traffic routing has 2 scenarios tested for travel north and south on the M1.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	Magnitude of impact is provided in 18.9.19 to 18.9.34 adopts DMRB methodology using high, medium, low, very low and no change as the descriptors (also uses the terms not significant, negligible, minor, moderate and severe). Uses a mix of qualitative and quantitative approach. Severance – includes definitions relating mainly to pedestrian activity. Driver stress and delay – uses DMRB definitions of thresholds by road type (motorway, dual carriageway and single carriageway).	Noted.	No

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			Pedestrian delay – based mainly on judgement rather than specific thresholds Pedestrian fear and intimidation – categorised based on traffic flow, HGV flow and average Speed. Accidents and safety – professional judgement based on existing KSI incidents Hazardous and dangerous loads – generally related to construction or decommissioning stages, also in this case could be related to fuel delivery. Probability, duration and significance of impacts have been considered in the text analysis.		
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	N/A	No significant adverse or beneficial effects are identified	Noted.	No
4.8	Are the residual significant effects clearly stated?	N/A	No residual significant effects are identified	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	C	Cumulative effects are mentioned and recognised that full consideration will be provided in the ES once all of the respective parts of the assessment are considered. Recognition that Transport, Noise & Vibration and Air Quality are related is made.	Noted. The cumulative assessment is provided in Chapter 21 In-Combination and Cumulative Effects Assessment of the ES [TR020001/APP/5.01] .	No
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	C	The approach to assessment is described as a reasonable worst case, which is regarded as taking account of uncertainty (18.6.5) WSP have raised a number of queries relating to the transport modelling work undertaken when we have a response, we can provide our view on the work undertaken.	Queries on the approach to assessment measures have been addressed via an exchange of correspondence with WSP: a. Written responses were provided to WSP on 7 April 2022. b. WSP provided further comment on 22 April 2022 and a further	No

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				<p>written clarification was provided to WSP on 26 May 2022.</p> <p>c. WSP provided further correspondence on 8 June 2022 and a written response provided on 29 June 2022.</p> <p>d. WSP provided further correspondence on 6 July 2022 and these were addressed at a follow-up call on 14 September 2022.</p>	
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	The scoping opinion comments have been addressed in Table 18.6.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	<p>A Conclusion section is not provided specifically in relation to Transport, section 18.15 suggests that there is further work to be undertaken before the assessment is complete and it could be expected that conclusions will be drawn once these activities have been completed. However, a preliminary assessment summary is provided in tabular form along with a section on completing the assessment including incorporating the agreed monitoring; further assessment of the impact on rail passengers; and assessment of PIC data at M1 J10.</p>	<p>The result of the assessment is summarised in Section 18.4 Assessment Summary of Chapter 18 Traffic and Transportation of the ES [TR020001/APP/5.01]. Conclusions on the traffic and transport impact are set out in the Transport Assessment [TR020001/APP/7.02].</p>	No
5.2	Is the summary of the significant environmental effects and	A	Table 18.32 provides a summary of the transport preliminary assessment.	Noted.	No

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	associated mitigation measures presented in tabular format?				
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	The assessment appears to be unbiased and balanced but lacks the detail to provide a full assessment of impacts and suite of mitigation actions for all modes of transport.	The detail is available in the Transport Assessment [TR020001/APP/7.02] and the Surface Access Strategy [TR020001/APP/7.12] .	No
6.2	Is the PEIR readable to the audience for which it is intended?	B	The document is broadly readable to the audience intended which is expected to be Local Authority professionals (or their representatives) or very interested members of the public, containing some technical data and information which could lead to misunderstanding. Additional technical documentation has been made available on request. The PIER contains a glossary to aid understanding of technical terms.	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B	It is anticipated that the intended audience of the Non-Technical Summary is the general public, and it is considered that the language used is appropriate, albeit more sophisticated language than would be found in many national newspapers.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	N/A			No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	Figures are provided, further detail is sought regarding transport modelling outputs.	Information has been provided to WSP.	No

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6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	B	Appendices are provided	Noted.	No
Conclusion					
	Legislation, Policy and Guidance Adequately covered.		N/A		No
	Baseline Information We have some queries which have been raised with Arup, who have agreed to provide additional information, but due to short timescales this will be expected after the consultation deadline.		<p>The text suggests that the ‘worst’ case constructional and operational assessment has been assessed, however the scenario may include the worst-case construction traffic, but it is modelled alongside the best case passenger demand traffic forecasts so a ‘worst case’ traffic scenario has not been tested. Further the VISSIM local models do not include construction traffic flows. Traffic modelling assumes highway works proposed by LBC as part of the East Luton Study will be implemented and form part of the future baseline against which the airport impact is assessed. This may be unrealistic in terms of funding for delivery. A full review of the schemes included for each forecast year needs to be fully understood. Assumptions are not fully substantiated by the information and data analysis that has been provided, further information is requested to be able to accept these as valid for the purposes of the traffic and other assessments being made:</p> <ul style="list-style-type: none"> Public transport mode share for passengers of 45% 	<p>The construction and operational assessments are undertaken for different years since they do not occur at the same time. This is clarified in Table 18.4 of Chapter 18 Traffic and Transportation of the ES [TR020001/APP/5.01].</p> <p>The assumptions regarding the highway works proposed by LBC as part of the East Luton Study have been agreed with LBC.</p> <p>There was a presentation on 24 June 2022 in which the approach taken to establish the target model shares was explained. Following the presentation, copies of the slides were distributed to National Highways, LBC, CBC, HCC, and WSP.</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> Public transport mode share for employees of 40% <p>Public transport operators provide the services to meet demand. Design year of 2039 without airport expansion requires some form of motorway capacity improvement on M1 between junctions 9 and 10, this has been included in the modelling, but there is not an approved scheme for this, nor is there funding for it.</p> <p>WSP have raised a number of queries relating to the transport modelling work undertaken, some have been resolved and [the Applicant] has agreed to provide additional information in response to queries, but due to short timescales this will be expected after the consultation deadline and we can provide a full response at that time.</p>	<p>The inclusion of a widening scheme on the M1 for 2043 has been agreed with National Highways. A sensitivity test has been undertaken to understand the changes to traffic patterns if no widening takes place further information can be found in Chapter 5 Approach to Assessment of the ES [TR020001/APP/5.01]. Information regarding this sensitivity test has been circulated to all those identified in the previous paragraph in this response.</p>	
	<p>Mitigation, Enhancement and Monitoring</p> <p>WSP have some queries which have been raised with Arup, who have agreed to provide additional information, but due to short timescales this will be expected after the consultation deadline.</p>		<p>There is a lack of information as to how mitigation measures have been identified. WSP have raised a number of queries relating to the transport modelling work undertaken and when we have a response we can provide a recommendation.</p> <p>A draft Construction Traffic Management Plan has been prepared to cover the construction phase – a higher level of detail on monitoring and implementation of further mitigation measures would be integral to this process. Further information expected in the EIA. A Construction Workers Travel Plan is also proposed but not yet drafted.</p> <p>For the operational stage a Framework Travel Plan is proposed which is primarily</p>	<p>The mitigation strategy has been developed by considering the impacts of the Proposed Development incrementally over time as the airport grows and adding improvements where the incremental growth shows a need for interventions. This is addressed when considering the Modelling Approach to Road Traffic Forecasts (Section 10) of the Transport Assessment [TR020001/APP/7.02].</p> <p>The Surface Access Team has been involved in earlier proposals for expansion of the airport and</p>	No

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			<p>aimed at managing employee travel and access to the airport with a focus on new employees. There is a lack of detail on public transport interventions (besides rail).</p> <p>The above documents need to be more comprehensive to include monitoring methods and potential additional measures that could be implemented to achieve the target / estimated /assumed mode shares and resulting traffic generation associated with the development, including methods for achieving the 3rd party buy-in and trigger-points for additional measures</p>	<p>also other projects in the area and as such had a detailed knowledge of the likely pattern of the additional traffic flows and the operation of the highway network. This enabled the team to develop a range of interventions that were then tested in the models and refined as necessary.</p> <p>The higher level of detail for the Construction Traffic Management Plan will be incorporated into the document when more detail is known after the lead contractor has been identified.</p> <p>By their nature it is easier to manage employee modes of travel, however in order to make travel by public transport more attractive for air passengers the Framework Travel Plan [TR020001/APP/7.13], identifies a number of measures that will increase the catchment area and attractiveness for travel by bus/coach.</p> <p>As set out in Chapter 7 of the Surface Access Strategy [TR020001/APP/7.12] the purpose of the Applicant’s monitoring approach is to ensure that future growth at the airport takes place within clearly defined Limits and Targets that are measurable and linked to incremental delivery of increased air passenger capacity.</p>	

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				<p>The Framework Travel Plan [TR020001/APP/7.13] establishes the monitoring approach, methodology and reporting mechanisms that will support ongoing review of Targets and ensure that sustainable mode shares are achieved. Relevant monitoring of surface access Limits and Targets is set out within the Green Controlled Growth Framework [TR020001/APP/7.08] and the Framework Travel Plan [TR020001/APP/7.13]. Through the Framework Travel Plan the Applicant has demonstrated its intention that stakeholders will be able to be involved in developing the monitoring regimen. The Framework Travel Plan [TR020001/APP/7.13] includes a section on the Governance of future Travel Plans.</p>	
	<p>Assessment of Significant Effects No significant effects are identified in the PEIR through the methodology adopted; however, we have some queries which have been raised with Arup, who have agreed to provide additional information, but due to short timescales this will be expected after the consultation deadline.</p>		<p>This provides a reasonable assessment of the most sensitive receptors and now begins to recognise that certain train / bus journeys may become more stressful if growth in supply does not meet demand for these services, this is referenced in of the documentation, although no significant effects identified. Uncertainties around the modelling assumptions is not recognised, the assessment uses TAG guidance for inclusion of developments and schemes in the modelling, however this inevitably has an impact on the results of the assessment.</p>	<p>Noted.</p>	<p>No</p>

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>WSP have raised a number of queries relating to the transport modelling work undertaken and when we have a response we can provide a recommendation.</p> <p>The assessment of the traffic impacts is based on a 'best case' mode share by public transport of 45% by 2039. However, it is not certain that this level of mode share is achievable from the measures being implemented. The public transport mode share is capped at 45% and there is some recognition that further measures to enhance public transport would be needed to grow beyond this level. Between 2039 and 2043 there is no growth in public transport mode share. This assumption is key to determining the wider traffic impacts. The main focus is on air passengers, the increased employee traffic impacts are not well represented throughout the document. In this document it does reference the reduction in employee car mode share from 76% to 40% by 2039, with the number of employees increasing by 90%. It is not clear how these additional trips are represented in the transport modelling or whether this is an achievable target. It is understood the DART will significantly improve the passenger experience from Luton Airport Parkway station, however the associated growth in activity at this location providing enhanced car parking for staff and passengers as well as access to hotels is not fully represented in the analysis provided.</p>	<p>Queries have been addressed via an exchange of correspondence with WSP:</p> <p>a. Written responses were provided to WSP on 7 April 2022.</p> <p>b. WSP provided further comment on 22 April 2022 and a further written clarification was provided to WSP on 26 May 2022.</p> <p>c. WSP provided further correspondence on 8 June 2022 and a written response provided on 29 June 2022.</p> <p>d. WSP provided further correspondence on 6 July 2022 and these were addressed at a follow-up call on 14 September 2022.</p> <p>The view regarding the achievement of the 45% target is not universally shared by CBC and HCC. The highway authorities have been provided with the methodology utilised that has identified these figures as minimum levels that will be achieved.</p> <p>Neither the PEIR nor the Getting to and from the Airport documents available as part of the 2022 statutory consultation suggested that there is congestion that affects</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Given that the congestion associated with the shuttle buses from the existing car parks without the DART is identified as problematic, this area could be explored further. Impacts are mainly covered towards the M1 and in the local vicinity. Wider potential impacts on traffic and routing are not covered in sufficient detail. Further information on the impacts at individual junction has been sought.</p>	<p>the shuttle buses from the existing car parks. Both reported that there have been problems with the shuttle bus service linking Luton Airport Parkway Station and the central terminal area, but reported that when the Luton DART becomes operational this should no longer be a problem.</p> <p>The impacts of the Proposed Development that are covered are mainly towards the M1 and in the vicinity because that is where the great majority of the additional trips occur. Detailed information on junction operation was not available when the PIER was published during the 2022 statutory consultation, however modelling information has since been discussed with the host authorities and further information is included in the Selected Traffic Flow Modelling Results in Appendix 18.2 of the ES [TR020001/APP/5.02].</p> <p>The Selected Traffic Flow Modelling Results in Appendix 18.2 of the ES [TR020001/APP/5.02] provides predicted traffic flows with and without the Proposed Development from changes to traffic volumes over a much wider area.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Conclusions		Conclusions regarding Transport not presented in this section of the PEIR	This is common ES chapter structure applied across all disciplines.	No
	Presentation (including Figures and Appendices)		Presentation of material is adequate for the intended audience	Noted.	No

B4 Climate change

Note: 'Ref.' is to tables 2-9 and 2-10 of the WSP on behalf of host authorities response.

Table B4.1: Climate Change (Climate Change Resilience)

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	<p>Section 9.2 of the PEIR identifies the relevant legislation, policy and guidance within Table 9.1, 9.2 and 9.4 respectively and highlights where they are addressed within the PEIR. Table 9.1 refers to the revised 2021 Climate Change Adaptation Report which is noted to not have been available at the time of PEIR production. The 2021 adaptation reports are now publicly available so this should be used to inform the Climate Change Resilience (CCR) assessment at the ES stage.</p> <p>The ANPS is identified as not having effect in relation to the Proposed Development however is considered an important and relevant consideration therefore the ANPS requirements and how they are addressed in the PEIR are presented in Table 9.3.</p>	The 2021 Climate Change Adaptation Report has been used to inform Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	<p>Baseline data has been collected through desk studies, which is suitable for this assessment.</p> <p>In relation to the UKCP18 projections used to inform the assessment, it is clear of the representative concentration pathway (RCP),</p>	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			probability levels and project design life for which the assessment has been based on. (Section 9.7.6)		
2.2	Do the data collection methods follow relevant guidance?	A	Section 9.5 identifies that data has been sourced from UKCP18, Met Office observational data and the London Luton Airport climate change adaptation report to inform the existing and future baseline. This is in line with the ANPS and the relevant guidance identified in Table 9.4.	Noted.	No
2.3	Is the study area identified appropriately?	A	<p>The study area is defined in 7.6.1 as being the proposed development, clarifying that this includes future assets only, not including existing airport infrastructure.</p> <p>The temporal scope for the two key delivery phases (Phase 1 and Phase 2) is referenced to be described in Chapter 5. For ease of the reader and to ensure continuity with the identified temporal scopes for the CCR, In-Combination Climate Impacts (ICCI) and construction phases, it would be useful to also present the temporal scope for the key delivery phases in the chapter.</p>	More information on the temporal scope has been included in the Section 9.3 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes
2.4	Have all the resources/receptors been considered?	B	<p>Table 9.6 presents the receptors scoped into the assessment. It is not clear in the text how these receptors have been identified (a reference to the scoping exercise undertaken would be expected). The description of the table within the text in 9.3.12 states that ‘assets’ are identified – this should be replaced for ‘receptor’.</p> <p>Table 9.7 presents the receptors scoped into the ICCI assessment. It is not clear in the text how these ICCI receptors to be scoped in</p>	An explanation of how receptors scoped for the Climate Change Resilience (CCR) and In-Combination Climate Impacts (ICCI) assessment have been identified has been included in Section 9.3 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] . The terminology ‘assets’ has been	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			have been identified (a reference to the scoping exercise undertaken and liaison with topic specialists would be expected).	updated to 'receptors' throughout the chapter.	
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	B	<p>Line 9.5.30 relates that “the likelihood of an impact occurring has been based on the likelihood of the climate hazard occurring combined with the sensitivity of the receptors as defined in relevant environmental disciplines, using professional judgement”. This addresses sensitivity in terms of the ICCI assessment.</p> <p>However, the CCR does not explicitly relate to sensitivity as a value. Table 9.9 addresses level of likelihood of a climate hazard occurring whereas Table 9.10 addresses likelihood of climate impact occurring for CRR assessment. These tables address the vulnerability of receptors through exposure of hazard and sensitivity of the project. However, this relationship is not explicitly mentioned in the text. It would be beneficial for the reader if the relationship between likelihood and exposure and sensitivity was mentioned within the text.</p>	The relationship between likelihood, exposure and sensitivity has been included in the Section 9.5 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes
2.6	Has there been consultation with the relevant statutory bodies?	B	Section 9.4 presents the stakeholder engagement and consultation. Statutory consultation feedback has been signposted to the 2019 Statutory Consultation Feedback Report. It has been identified that no significant matters were raised regarding the scope, method or mitigation considered as part of the Climate Change Resilience assessment. If any statutory comments have been received since 2019, it is not clear where these are addressed.	Details on feedback to the 2019 and 2022 statutory consultations and where responses can be found are referenced within Section 9.4 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.02] . Further details about the origin and purpose of the Climate Change and Greenhouse Gases Working Group are now included in Section 9.4 of	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			A Climate Change and Greenhouse Gases stakeholder working group is identified as a source of engagement with a number of stakeholders. It would be useful for context to detail the origins and purpose of this working group.	Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01].	
2.7	Is the future baseline scenario adequately described?	A	<p>The future baseline is identified in Section 9.7 for a 25km² grid square where the proposed development is located. Inset 9.3 provides a diagram of the 25km² grid square, along with a 12km² grid square however this is not reflected in the in-text description in 9.7.5. Future projections are addressed for relevant time slices and show the full range of uncertainty in the projected outcomes (10th, 50th and 90th percentiles). Table 9.19 shows the projected changes in extremes (absolute). Although it is not mentioned in the document that the data has not been bias corrected, the difference between the baseline observed vs baseline projected (projected by the model) has been accounted for.</p> <p>Table 9.21 relays information of high-end climate scenarios (H++/L--) to UKCP18 PPCE and notes the changes in the baseline time period. This is a robust methodology.</p>	Further details have been included in the in-text description in Section 9.5 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] to reflect and cross-reference to Inset 9.3 (now Inset 9.1).	Yes
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	Section 9.6 identifies the assumptions and limitations associated with the assessment. These address the availability of the climate projections used and the uncertainty associated with the projections. The use of professional judgement within the assessment is highlighted as a limitation.	Reference to UCKP18 caveats and limitations have been included in the Section 9.6 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01].	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Section 9.6 identifies the assumptions associated with the assessment. These address the data used and states why extremes beyond 2079 cannot be explored (as a result of availability of projections using 12km regional projections).</p> <p>The section also identifies the uncertainties in climate model projections themselves. Suggestion would be to include reference to UKCP18 caveats and limitations as these are carried over to the user of the datasets. To account for future uncertainties the projections are considered for the 10th, 50th and 90th percentiles. However, to account for full range of uncertainties it may be beneficial to look at multiple scenarios (these are only available for the probabilistic projections). It is assumed that assets will be maintained in line with LLAOL's existing Climate Change Adaptation Report (Ref. 9.31) or any subsequent equivalent document that may supersede it and therefore are not assessed here. The report addresses future impacts for new assets only.</p>	<p>No changes have been made to the scenarios used. IEMA (2020) Climate Change Resilience and Adaptation guidance has been followed and Scenario RCP 8.5 used: <i>“the use of the high emissions scenarios (Met Office UKCP18 RCP8.5) is generally recommended, unless the case can be made for using a different, lower emissions scenario.”</i></p>	
2.9	Which are the key receptors for the local authorities?	A	Refer to comment 2.4.	Refer to response to 2.4.	Yes
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	A	Section 9.8 'Embedded and good practice mitigation measures' identifies measures incorporated into the Proposed Development design and construction. CCR is identified to have been taken into account in the sifting and optioneering stages and influenced the	Where possible, evidence of where climate change resilience has been considered in the sifting and optioneering stages and influenced the design has been included in	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>design. It would be good to evidence documentation of where this has been the case, if possible. Embedded and good practice mitigation within the operation (design) of the Proposed Development is explained within the drainage, pavement and building design and landscape planting.</p> <p>Tables 9.22 and 9.23 identify embedded and good practice mitigation for the ICCI assessment which is considered sufficient.</p>	Section 9.8 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	
3.2	Are the mitigation measures included for significant adverse effects appropriate?	N/A	Section 9.9 'Preliminary Assessment' states that no significant effects are identified at either the construction or operation stage of design or within the ICCI assessment following the incorporation of embedded and best practice mitigation measures identified in Section 9.8.	Noted.	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	B	<p>Section 9.8 identifies a number of embedded mitigation measures within the construction phase that are the responsibility of the contractor and would be a DCO requirement. Building design is said to account for thermal efficiency and pavements designed to accommodate future climate conditions however these statements are ambiguous. It is not clear as to the range of temperatures and future climate conditions considered within the designs and how this is evidenced within the design.</p> <p>9.8.17 identifies that 'Assets will be maintained regularly to detect deterioration and damage caused by extreme weather events such as storms through maintenance and monitoring in contracts'. It is not clear</p>	Clarity on design guidance used and the range of temperatures and future climate conditions considered within the design has been provided where possible in Section 9.8 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] . Further details on who would be responsible for maintaining assets and how mitigation measures will be secured is also provided Section 9.8 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>who would be responsible for this and how it would be conditioned.</p> <p>9.8.19 states that ‘using appropriate design guidance where available, all buildings, surface access routes, taxiways, aprons and other airside and airfield assets will be designed for the climatic conditions projected for the end of their design life’. Again, this is ambiguous. Clarity is required on the design guidance that would use, the extent to which the range of projected future climate changes are integrated into the design and where this is evidenced within the design.</p>		
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	A	<p>Monitoring is referred to in 9.8.17 and again in 9.12.2 in the form of maintenance of assets following extreme weather events. Despite there being no residual significant effects, section 9.12 on Monitoring identifies measures within the Draft CoCP as construction monitoring and monitoring of post-planting during operation of the Proposed Development. Our previous suggestion of a list of extreme weather-related incidents to be maintained has been included however detail on the responsibility of this should be identified.</p>	<p>Details of who will be responsible for ongoing monitoring and maintenance measures are outlined in Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01].</p>	Yes
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	<p>It would be useful if the embedded measures were identified in relation to the assets scoped into the assessment as highlighted in Table 9.6. The measures in section 9.8 are not specific to particular development assets.</p>	<p>Embedded mitigation measures have now been presented in relation to the receptors scoped into the assessment in Section 9.8 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01].</p>	Yes
4	Assessment of Significant Effects				

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.1	Are the assessment methods/techniques used identified and described?	A	Section 9.5.11 onwards presents the assessment methodology in line with guidance and good practice. Key terms in relation to the CCR and ICCI are identified which is helpful for the reader. A flow diagram of the assessment methodology is provided in Inset 9.1 (resilience assessment) and Inset 9.2 (ICCI assessment). This is a useful visual representation of the methodology. The assessment methodology is robust and justified.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	N/A	Magnitude has not been used for the climate resilience assessment, instead, the likelihood of climate hazards occurring, and the level of consequence has determined the level of significance. This is consistent with guidance/good practice. Tables 9.9, 9.10 and 9.11 outline the criteria for the identification of likelihood and consequence for the climate resilience assessment and Tables 7-9, 7-10 and 7-11 for the ICCI assessment.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Significance criteria and thresholds for the climate resilience assessment is defined in 9.5.24 and Table 9.12 and for the ICCI assessment in 9.5.33 and Table 9.15. The rationale for the thresholds for significance are referenced.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	9.5.11 states that the assessment is aligned with existing referenced guidance and good practice. The identification of climate hazards has been informed by the UKCCRA3 and UKCP18 data (9.5.14). The likelihood assessment is stated as being in line with the	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			IPCC AR5 and the criteria for the consequence assessment and significance threshold are based on the LLAOL Climate Change Adaptation Report.		
4.5	Have potential effects been considered both during construction and operation?	A	Table 9.25 and 9.26 presents a preliminary assessment of the construction and operation phase respectively. The preliminary assessment takes into account the embedded and good practice mitigation identified in Section 9.8. The potential effects are outlined for all of the receptors identified in Table 9.6.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	Refer to comment 4.2 in relation to magnitude of impacts. The probability levels for the climate projections (future baseline) are identified in 9.6.4 and 9.7.6. In addition, the level of likelihood (Table 9.9, 9.10 and 9.13) is determined by the probability of the impact occurring during the life of the project.	Noted.	No
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	The assessment of significance is presented in Tables 9.25, 9.26 and 9.27. Significance is determined through a combination of likelihood and consequence which is also identified in these tables.	Noted.	No
4.8	Are the residual significant effects clearly stated?	A	No significant effects have been identified following the preliminary assessment, this is clearly stated.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	Section 9.3.6 states that the 'ICCI assessment considers all identified effects (including those identified by the Cumulative Effects Assessment (CEA)) and whether these are exacerbated by climate change.	Each discipline is now presented in chapter order within Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] . All comments on ICCIs have been	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>The Zone of Influence (ZOI) is therefore defined by other environmental topics'. The topic chapters and receptors which this assessment has been undertaken for have been identified in Table 9.7. The topic chapters of major accidents and disasters, traffic and transportation and waste and resources have been deemed as not relevant for the ICCI assessment, with a rationale provided for each chapter for their scoping out.</p> <p>The ICCI assessment has been presented throughout Chapter 9 and the ICCI preliminary assessment summary is presented in Table 9.27. Each environmental topic discipline (that has been scoped into the ICCI assessment) is identified within this table. For continuity, each discipline should be presented in their chapter number order. Individual topic chapters also contain the ICCI assessment and have been reviewed. From a climate resilience specialist perspective, we have no comments on the ICCI assessment within the following chapters:</p> <ul style="list-style-type: none"> • Chapter 7 Air quality Section 7.12, Table 7.11 • Chapter 12 Greenhouse Gases, Section 12.13, Table 12.36 • Chapter 16 Noise and Vibration Section 16.12, Table 16.49 • Chapter 17 Soils and Geology Section 17.12, Table 17.22 	<p>considered and incorporated where deemed appropriate in Section 9.9 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01]. Specific responses on each are provided below:</p> <ul style="list-style-type: none"> • Drought conditions have been considered and impacts associated with the cracking of soils included within the ICCI assessment for Agricultural Land Quality and Farm Holdings. • For biodiversity, the same climate hazards have been ordered together for consistency. • The ICCI assessment focuses on the effects of the Proposed Development identified by other environmental assessments in the ES that will be exacerbated by climate change. Therefore, it is not appropriate to assess the impact of climate change on cultural heritage receptors as this is out with the scope of the assessment. • Similar to the above the ICCI assessment focuses on the effects of the Proposed Development 	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> Chapter 20 Water Resources and Flood Risk, Section 20.12, Table 20.14 <p>We have identified comments on the ICCI assessment within the following chapters: Chapter 6 Agricultural Land Quality and Farm Holdings, Section 6.12, Table 6.16: As highlighted in the 2019 PEIR review, soil resources are identified as at risk if handled when too wet, have drought conditions been considered and impacts associated with the cracking of soils?</p> <p>Chapter 8 Biodiversity, Section 8.12, Table 8.15: For consistency, it is advisable to order the same climate hazards together – the hazards alternate between temperature and precipitation.</p> <p>Chapter 10 Cultural Heritage, Section 10.12: It is noted that the Proposed Development would not result in effects to cultural heritage assets that would worsen as a result of climate change. The cultural heritage receptors scoped into the ICCI assessment (as identified in Table 9.7 of the Climate Change chapter includes ‘Cultural heritage assets, including Someries Castle, archaeological remains and the historic landscape’. To state that there would be no ICCI to the cultural heritage assets scoped in requires rationale as to how the climate hazards identified would not impact on the assets.</p>	<p>identified by other environmental assessments in the ES that will be exacerbated by climate change. Therefore, it is not appropriate to assess the direct impact of climate change on economic and employment receptors identified as this is out of the scope of the assessment. Any direct impact on workers or users of the Proposed Development have been assessed as part of the CCR assessment.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Chapter 11 Economics and Employment, Section 11.12. It is noted that ‘any Economics and Employment receptors in the study area will likely be affected by climate change impacts in a way which is measurable, therefore, no further assessment is proposed’. This statement would benefit from some additional rationale as to why local businesses, local labour force and the broader economy would not be measurably impacted by climate change.</p> <p>Chapter 13 Health and Community, Section 13.12, Table 13.14. Has the potential impacts of wind and extreme weather, including heavy precipitation events on safety and access been considered?</p> <p>Chapter 14 Landscape and Visual, Section 14.12, Table 14.8. The increased likelihood of plant failure can be a result of increased precipitation as well as heatwaves and droughts. Also, as highlighted in the 2019 PEIR review, could the benefits of proposed planting in relation to climate resilience (i.e., water retention and soil stability) be mentioned?</p>		
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	The chapter does not explicitly highlight if there are uncertainties in the design or mitigation which may affect the assessment. Section 9.14 ‘Completing the Assessment’ identifies those discussions with design teams will continue as the design of the Proposed Development progresses. In addition, this section identifies that the ICCI assessment will be updated, and stakeholders would be further engaged.	Noted. The CCR and ICCI assessments have been completed and therefore, Section 9.14 of the PEIR that was available as part of the 2022 statutory consultation, has been removed for the ES. Any uncertainties in design or mitigation have been outlined in Section 9.8 of Chapter 9 Climate Change	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				Resilience of the ES [TR020001/APP/5.01].	
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	Table 9.5 presents the Climate Resilience Scoping Opinion comments received and how they have been addressed within the PEIR. All responses to the comments are deemed sufficient.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	A	Section 9.11 identifies that as there are no residual effects and no additional mitigation required. Section 7.14 identifies the activities to be undertaken to complete the assessment.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Tables 9.25, 9.26 and 9.27 present the preliminary climate resilience assessment summary for the construction, operation and ICCI assessment respectively.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	A	It is considered that the PEIR Chapter 9 Climate Change is unbiased, balanced, comprehensive and transparent in its logic and presentation.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	A	It is considered that the PEIR Chapter 9 Climate Change is readable to the audience for which it is intended.	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	The Non-Technical Summary is suitably clear and free from technical jargon.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	The Non-Technical Summary presentation matches the findings of the PEIR.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	N/A	There are no Figures within Volume 2 associated with the Climate Change Chapter. This is not something typically expected.	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	N/A	There are no Appendices within Volume 3 associated with the Climate Change Chapter. This is not something typically expected.	Noted.	No
Conclusion					
	Legislation, Policy and Guidance Overall conclusion - Meets the requirement at the PEIR stage.	B	N/A no recommendations advised.	Noted.	No
	Baseline Information Overall conclusion - . A detailed baseline has been presented in line with relevant guidance.	B	It is recommended to refer to the scoping exercise undertaken to provide a rationale for how the receptors identified have been scoped into the assessment. It would be beneficial for the reader if the relationship between likelihood and exposure and sensitivity was mentioned within the text.	Further detail has been provided in Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes
	Mitigation, Enhancement and Monitoring Overall conclusion - Embedded and good practice mitigation measures are clearly identified.	B	Further detail should be provided to clarify with whom the responsibility for all mitigation measures lies. Clarity is required on the design guidance that would use, the extent to which the range of projected future climate changes are integrated into the design and where this is evidenced within the design of all buildings, surface access routes, taxiways, aprons and other airside and airfield assets.	Further clarification has been provided in Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	<p>Assessment of Significant Effects</p> <p>Overall conclusion - A robust assessment has been undertaken.</p>	B	<p>A number of clarifications are recommended for the ICCI assessment within individual topic chapters of: Chapter 10 Cultural Heritage, Chapter 11 Economics and Employment, Chapter 13 Health and Community and Chapter 14 Landscape and Visual.</p> <p>The chapter should explicitly highlight if there are uncertainties in the design or mitigation which may affect the assessment.</p>	<p>These recommendations have been considered and clarification provided in Section 9.9 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01]. Uncertainties have been outlined in Section 9.6 of Chapter 9 Climate Change Resilience of the ES [TR020001/APP/5.01].</p>	Yes
	<p>Conclusions</p> <p>Overall conclusion - Conclusions are clearly presented.</p>	B	N/A	Noted.	No
	<p>Presentation (including Figures and Appendices)</p> <p>Overall conclusion - The chapter is clearly presented and offers a very robust method and assessment.</p>	B	N/A	Noted.	No

B5 Greenhouse gases review checklist and summary

Note: 'Ref.' is to tables 2-11 and 2-12 of the WSP on behalf of host authorities response.

Table B5.1: Greenhouse Gases

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>The 2022 PEIR does not currently reference the Clean Growth Strategy^{4F} [Ref 2], this should be considered in the assessment. The assessment could also consider the DfT's UK Aviation Forecasts carbon emissions scenarios^{5F} [Ref 3].</p> <p>It should be noted that IEMA has released a 2nd edition of the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Whilst the PEIR was produced prior to the release of this updated guidance, future assessments should consider how best to reflect this update in content (noting that a full reassessment in accordance with the updated guidance is likely to be disproportionate).</p>	<p>The Clean Growth Strategy has been included in the assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. The DfT's UK Aviation Forecasts carbon emissions scenarios have also been included in the assessment.</p> <p>The GHG Assessment was updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions, the updated assessment can be found in Chapter 12 Greenhouse Gases</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				of the ES [TR020001/APP/5.01].	
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	In some cases, data sources within the PEIR chapter refer to broad categories, e.g. the data source for all construction activities is “ <i>Applicant data</i> ”. Whilst this could be an issue if no further clarification is provided, sufficient additional detail is provided in Appendix 12.2, where data collection is adequately described, for example: “ <i>Emissions for construction materials were calculated off a dataset of construction materials quantities from Project design engineers</i> ”.	Noted.	No
2.2	Do the data collection methods follow relevant guidance?	A	<p>The appropriate guidance is referenced and followed, including Airports National Policy Statement (ANPS), National Planning Practice Guidance, IEMA Guidance, Greenhouse Gas Protocol, and BS EN 15978. However, as previously noted, IEMA has released a 2nd edition of the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, which includes guidance on concluding significance. This 2nd edition should be appropriately referenced in future assessment work.</p> <p>The emissions factors for surface access journeys in petrol and diesel cars were taken to remain constant at 2021, despite using the mode split from the TAG Databook, and the projected decarbonisation of the grid over time for electric vehicles. For consistency the assessment should have use the projected fuel consumption for petrol and diesel vehicles over time from the TAG Databook.</p>	<p>Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions.</p> <p>Relevant data from Data TAG book has been applied in the assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p>	Yes
2.3	Is the study area identified appropriately?	A	It is not appropriate for a study area to be defined for GHG, as the appropriate boundary is ‘global’ (and cumulative in	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			nature), as discussed in the PEIR. No further action required.		
2.4	Have all the resources/receptors been considered?	A	Defining Receptors is not relevant to GHG emissions assessments.	Noted.	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	N/A	Defining Receptors (and their value) is not relevant to GHG emissions assessments.	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	A	Statutory consultation on GHG emissions is not necessarily required, however consultations have been undertaken. A programme of statutory consultation was undertaken in 2019, and the feedback from this was discussed via stakeholder engagement meetings, with the conclusion in the 2022 PEIR that “ <i>No matters raised regarding the GHG assessment to be addressed.</i> ”	Noted.	No
2.7	Is the future baseline scenario adequately described?	A	The future baseline is clearly defined. No further action required	Noted.	No
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	<p>In some sections of the PEIR, estimates/assumptions could be clearer.</p> <p>In Table 12.6 it states that the transportation of operational waste and disposal/treatment is included in the airport operations emissions assessment. Appendix 12.2 Table 2.1 states waste management data is from board reports, and in Table 2.3 of the same document it states the emissions from this source are expected to remain proportionate to the passenger numbers. However, for clarity this should define whether the transport distances have been assumed or if these are included in the data source. If assumptions have been made these should be defined.</p>	<p>All assumptions have been clarified in GHG Methodology and Data in Appendix 12.2 of the ES [TR020001/APP/5.01].</p> <p>Operational waste disposal emissions are pro-rated based on passenger numbers; the same assumptions are applied as in the baseline data provided by the Applicant.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>The following assumptions should be justified, referencing what information or data source the assumptions were based on:</p> <p>Appendix 12.2 states that for the future baseline (DM) scenario, the “<i>airport and 3rd party tenant electricity demand assumes that the overall annual power consumption per passenger falls at 0.5% per year</i>”, and also that emissions factors will reduce as the grid decarbonises. It is necessary that a description is provided of what the 0.5% reduction has been based on. According to Appendix 12.2, the future baseline methodology states that the emissions factor for natural gas remains constant at 2021 levels, whilst “<i>emissions factors for all airport vehicles remains constant at the levels in the 2019 carbon footprint</i>”. It is strongly recommended that the same year for emissions factors is used for all emissions sources within the future baseline. (It is noted that this issue may be a mistype, as Appendix 12.2, 2.2.4 states for “<i>future baseline modelling the most recent BEIS factors (from 2021) have been used</i>”).</p> <p>In general, however, the uncertainties, data limitations, assumptions, difficulties and the use of professional judgment are clearly stated in the PEIR.</p>	<p>3rd party tenant electricity demand is now taken directly from the Energy Statement in Appendix 4.3 of the ES [TR020001/APP/5.02].</p> <p>Same year for emission factors have been applied for future baseline where possible in the assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				Noted.	
2.9	Which are the key receptors for the local authorities?	N/A	Defining Receptors is not relevant to GHG emissions assessments.	Noted.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	A	The chapter includes details of the embedded mitigation within the design, and accounts for this within the DS DCO-embedded scenario. The chapter also provides a range of additional mitigation options relevant to the Proposed Development. Significant effects are accurately identified.	Noted.	No
3.2	Are the mitigation measures included for significant adverse effects appropriate?	A	The chapter provides a range of mitigation options relevant to the Proposed Development.	Noted.	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	A	The information regarding mitigation proposed at this stage is commensurate with the PEIR stage.	Noted.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	Monitoring is covered adequately in Section 12.14.	Noted.	No
3.5	How could the proposed mitigation measures and/or	B	The level of mitigation proposed is commensurate with the PEIR stage, and sufficient. The PEIR also states - for residual effects - that “ <i>as further details on the Proposed Development and policy landscape become available, the</i>	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	the proposed development be improved?		<i>assessment will be updated for the Environmental Statement.</i>		
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	B	<p>Within the Scope 1 to 3 emissions reported, it is not clear what the 243,599 tCO₂e (which is reported as “<i>out of scope</i>” in Table 12.30) refers to: this should be clarified.</p> <p>The following assumptions should be justified, referencing what the assumptions were based on:</p> <ul style="list-style-type: none"> Appendix 12.2 Table 2.9 states land use change emissions were calculated using the European Commission guidelines for calculation of land carbon stocks^{6F} [Ref 4], and then the carbon values derived were converted to CO₂ (Appendix 12.2). To ensure a highly robust output, it is strongly recommended that conversion to CO₂e is adopted, as this is presented in Table 12.24. For the DS scenario, the methodology (Appendix 12.2 Table 2.9) states ‘for earthworks the emission factor was assumed to be the same for aggregate’, however table 2.10 states the emissions factor used for aggregate was 17.928 kg CO₂e/ m³, whereas for imported earthworks it was 19.928 kg CO₂e / m³. This needs to be resolved. Appendix 12.2 Table 2.9 states “<i>Transportation of waste from site to disposal was assumed to be 50 km and the transport Emission Factor of 0.12158 (kg CO₂e/tonne.km) was used to account for the vehicles used.</i>” It is not clear what methodology was used for the assessment of this emissions source, and how the estimated distance was formulated, this should be clarified, e.g., 	<p>Emissions reported as “out of scope” in the PEIR referred to land use change emissions; these are now presented within Scope 1 within GHG Methodology and Data in Appendix 12.2 of the ES [TR020001/APP/5.02].</p> <p>Land use change emissions are reported in mass of CO₂e in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>Emission factor for imported earthworks has been updated in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>information provided by the contractors or using RICS assumptions.</p> <ul style="list-style-type: none"> Appendix 12.2 Table 2.9, states that construction plant use emissions calculations used “<i>BEIS conversion factors to develop an estimate of CO2e emissions, at this stage 40% power efficiency was considered, for diesel emissions were multiplied by 2.5 and for electric by 1.5.</i>” The assumptions of 40% power efficiency and the different multipliers for each fuel type should be explained and justified. Appendix 12.2 Table 2.9 states the % assumed for water discharged, this assumption should be justified and explained. Within Appendix 12.2 Table 2.9 there should be an explanation/justification of all the assumptions for “<i>Construction worker transport</i>”. <p>Within Appendix 12.2 Table 2.16 there should be clarification of whether all assumptions for the airport operations are taken from the London Luton Airport Operations Ltd Carbon Footprint, and if not justify and explain why these have been used.</p>	<p>Distances for waste disposal were assumed in agreement with waste management specialists.</p> <p>The assumption of 40% efficiency for a diesel engine was taken to be representative of overall engine efficiency. More clarity on the power efficiency and multipliers for each fuel type has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>More clarity on the assumption has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. More clarity on the construction worker transport has been Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>All assumptions have been clarified in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. Assumptions around activity data for certain airport operations emissions sources are based on data in the 2019 LLAOL footprint report; these include aircraft engine tests, fire training, water supply, waste disposal, fugitive emissions of refrigerants and business travel. Future estimates of activity data are extrapolated on the basis of passenger, staff or ATM numbers as applicable. All activity data relating to energy use for heating, transport or electricity consumption are taken directly from the Energy Statement in Appendix 4.3 of the ES [TR020001/APP/5.02].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.2	Are the methods for establishing the ‘magnitude’ of effects on the receiving environment clearly defined?	A	The methods used to quantify emissions are clearly stated, and magnitude is “ <i>defined by professional judgement</i> ”. No further action required.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	The methods used to evaluate significance are clearly stated. No further action required.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	The methods used follow relevant guidance at the time of the assessment. However, as previously noted, IEMA has released a 2nd edition of the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, which includes guidance on concluding significance. This 2 nd edition should be appropriately referenced in future assessment work.	The GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions.	Yes
4.5	Have potential effects been considered both during construction and operation?	A	Construction and operational effects are appropriately considered – no further work required.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	These aspects have been considered effectively, in accordance with requirements for GHG assessments.	Noted.	No
4.7	Are significant adverse and beneficial effects identified and described, with a	B	The method to determine significance is described as using two tests: the first is a qualitative approach against the Appraisal of Sustainability, and the second compares the future emissions to the UK carbon budgets.	Noted.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	justification for the 'significance' decision?		The assessment concludes that the emissions from the Proposed Development are “ <i>estimated to be significant</i> ” but goes on to conclude that in the context of the UK Government targets the “ <i>overall effect is considered not significant</i> ”. IEMA best practice guidance at the time of issue considers that <i>all</i> emissions should be considered significant. It is therefore recommended that the conclusion of significance be reviewed against this guidance.	Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions.	
4.8	Are the residual significant effects clearly stated?	A	The PEIR notes that residual effects will be clearly stated in the ES – this is appropriate.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	A	Cumulative effects have been considered in as far as they are relevant to GHG assessments. The likely in combination impact of high wind could lead to increased aviation fuel consumption, this was concluded to have Negligible/Not significant effect on GHG emissions, it would be more robust to have justification for this judgement.	Noted. A justification for this conclusion has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] .	Yes
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	A	Uncertainties are identified and discussed throughout the chapter. No further action required.	Noted.	No
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	The scoping opinion has been considered effectively. No further action required.	Noted.	No
5	Conclusion/Summary				

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
5.1	Have the conclusions been clearly reported in the PEIR?	A	The conclusions are clearly reported. No further action required.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	The summary of the 'Significance of Effect' is presented in Table 12.31. Embedded mitigation is presented in Table 12.20, Table 12.21, Table 12.22, and Table 12.23. No further action required.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	C	<p>The following list summarises points which should be addressed within the PEIR:</p> <p>Radiative forcing should be considered in the assessment. A PEIR and ES should present a realistic worst-case assessment. Where predicted data on radiative forcing is not available a worst-case assumption can be made. There are publicly available sources of information on worst case radiative forcing.</p> <p>Only one leg of the CCD element of each flight is accounted for. The assessment should account for the total increase in emissions due to the increase in flights due to the Proposed Development. The assessment only accounts for half of this increase, justifying it in terms of the responsibility of other airports. However, the responsibilities of other airports are not relevant, what is relevant is the total increase in emissions due to the proposed development – a significant underestimate is therefore presented.</p> <p>Provide further justification for the assumption under a worst-case scenario that where “<i>Airbus neo aircraft models in the fleet mix are not included in the EMEP/EEA model database, a representative fuel efficiency improvement of 15% has been assumed over the standard current engine option equivalents</i>”.</p>	<p>A discussion around radiative forcing has been included in the GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] but these indirect, non-CO2 emissions have not been included in the overall emissions summary due to scientific uncertainty. They are not included in national carbon budgets or Jet Zero data.</p> <p>No change has been made to the GHG Assessment in Chapter 12 Greenhouse Gases of the ES</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Whilst there are potentially large improvements in the aviation industries carbon emissions, some statements made in the PEIR rely heavily on this expectation. For example, “<i>The data shown here do not take account of the future impact of the UK ETS on aviation emissions, but the traded sector aviation emissions will be significantly lower than presented here.</i>”. It would be more accurate to say ‘potentially lower’ in these cases.</p>	<p>[TR020001/APP/5.01] on the basis that emissions from incoming flights remain the effective responsibility of the departure airport. This is the conventional approach that has become accepted practice.</p> <p>Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to state ‘potentially lower’.</p>	
6.2	Is the PEIR readable to the audience for which it is intended?	B	<p>In general, the PEIR communicates effectively the complex technical issues associated with carbon assessment. However additional definition is recommended in the following areas: A diagram of LTO and CCD would add value to Section 12.5.14 to 12.5.19, and the use of the PAS2080 lifecycle references (A1-5, B 1-9 etc) would benefit the definition of scope in Section 12.3.</p>	<p>A diagram of Landing and Take Off (LTO) and Climate, Cruise, Descend (CCD) has been added to Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. No changes to reporting of the GHG emissions have been made; presenting emissions broken down by PAS2080 stages is not standard</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				practice for ES chapters.	
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	The Non-Technical Summary is clear and easy to understand. No further action required.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	The findings match. No further action required.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	N/A	N/A (no figures are presented)	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	The appendices provide appropriate information. No further action required.	Noted.	No
Conclusion					
	Legislation, Policy and Guidance	B	<p>The 2022 PEIR does not currently reference the Clean Growth Strategy: The Strategy should be referenced within the assessment.</p> <p>The assessment should also consider the DfT's UK Aviation Forecasts carbon emissions scenarios.</p>	The Clean Growth Strategy has been included in the assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>It should be noted that IEMA has released a 2nd edition of the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Whilst the PEIR was produced prior to the release of this updated guidance, future assessments should consider how best to reflect this update in content (noting that a full reassessment in accordance with the updated guidance is likely to be disproportionate).</p>	<p>The GHG Assessment considers the recently published Jet Zero Strategy (Ref 5) and its accompanying dataset; these represent the most up to date source of information around aviation forecast emissions.</p> <p>The GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions.</p>	
	Baseline Information	B	<p>The logic for exclusion of radiative forcing and return legs of flights, should be re-examined in the context of a 'realistic worse case' assessment. Additional detail within Appendix 12.2 is recommended:</p> <p>Details about the operational transportation of waste methodology and assumptions.</p> <p>Clarity around the assumption that there would be a 0.5% reduction in overall annual power consumption per passenger for airport and 3rd party tenant electricity demand.</p>	<p>Radiative forcing has been included in the GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] and a reasonable worst case scenario has been made.</p> <p>Return legs of flights are not included in</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Further clarity around the emissions factors used for the future baseline should be included. According to Appendix 12.2, the future baseline methodology states that “emissions factor for natural gas remains constant at 2021 levels”, whilst “emissions factors for all airport vehicles remains constant at the levels in the 2019 carbon footprint”. It is highly recommended that the same year of emissions factors is used for all emissions sources within the future baseline. (Noting that this may be a mistype, as Appendix 12.2 2.2.4 states for “future baseline modelling the most recent BEIS factors (from 2021) have been used”).</p>	<p>GHG Assessments, due to these being considered to be associated with the originating airport. There is a risk of double counting if all airports count incoming and outgoing air traffic.</p> <p>Additional detail has been provided for waste methodology in the Greenhouse Gas Action Plan in Appendix 12.1 of the ES [TR020001/APP/5.02].</p> <p>Same year for emission factors has been applied for future baseline where possible; baseline year emissions factors have been applied when more up to date factors are not available.</p>	
	Mitigation, Enhancement and Monitoring	B	<p>The chapter includes details of embedded mitigation within the design, and accounts for this within the DS DCO-embedded scenario. The chapter also provides a range of additional mitigation options relevant to the Proposed Development. No recommendations for further work have been made for this section of the PEIR.</p>	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Assessment of Significant Effects	C	<p>The following recommendations for the assessment of significant effects are made:</p> <ul style="list-style-type: none"> • Radiative forcing should be considered in the assessment. • Only one leg of the CCD element of each flight is accounted for. The assessment should account for the total increase in emissions due to the increase in flights due to the Proposed Development. The assessment only accounts for half of this increase, justifying it in terms of the responsibility of other airports. However, the responsibilities of other airports are not relevant, what is relevant is the total increase in emissions due to the Proposed Development – a significant underestimate is therefore presented. • Provide further justification for the assumption that where “<i>Airbus neo aircraft models in the fleet mix are not included in the EMEP/EEA model database, a representative fuel efficiency improvement of 15% has been assumed over the standard current engine option equivalents</i>”. • Whilst there are potentially large improvements in the aviation industries carbon emissions, some statements made in the PEIR rely heavily on this expectation. For example, “<i>The data shown here do not take account of the future impact of the UK ETS on aviation emissions, but the traded sector aviation emissions will be significantly lower than presented here</i>”. It would be more accurate to say ‘potentially lower’ in these cases. • Where scope 1-3 emissions are presented, it is not clear what the 243,599 tCO₂e which is reported as “<i>out of scope</i>” in Table 12.30 refers to. This should be explained in the text. • Include the conversion to CO₂e within the land use change emissions methodology. 	<p>Radiative forcings has been discussed in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. A reasonable worst case scenario has been made. No change has been to the scenario as only counting departing flights has become accepted best practice and avoids the risk of double counting.</p> <p>Further detail has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01]. The GHG Assessment now incorporates standard assumptions on aircraft efficiency from the Jet Zero Strategy High Ambition scenario (Ref 6).</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> For the DS scenario, the methodology (Appendix 12.2) states “for earthworks the emission factor was assumed to be the same for aggregate”, however Table 2.10 states the emissions factor used for aggregate was 17.928 kg CO₂e/ m³, whereas for imported earthworks it was 19.928 kg CO₂e / m³. This should be clarified. <p>The assumptions highlighted in row 4.1 of the above table should be justified, referencing what the assumptions were based on.</p>	<p>Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to state 'potentially lower'.</p> <p>Data around passenger and flight numbers provided by the Applicant already take account of carbon pricing via the UK Emissions Trading Scheme and CORSIA. Further clarity has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>There are no emissions reported as “out of scope” within Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>More clarity on the CO₂ to CO₂e conversion has been provided in Chapter 12 Greenhouse</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>Gases of the ES [TR020001/APP/5.01].</p> <p>Emission factor for imported earthworks has been updated in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>More clarity on the assumption has been provided in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01].</p>	
	Conclusions	A	<p>The assessment concludes that the emissions from the Proposed Development are “<i>estimated to be significant</i>” but goes on to conclude that in the context of the UK Government targets the “<i>overall effect is considered not significant</i>”. IEMA best practice guidance at the time of issue considers that <i>all</i> emissions should be considered significant. It is therefore recommended that the conclusion of significance be reviewed against this guidance.</p> <p>It should be noted that IEMA has released a 2nd edition of the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Whilst the PEIR was produced prior to the release of this updated guidance, future assessments should consider how best to reflect this update in content (noting that a full reassessment in accordance with the updated guidance is likely to be disproportionate).</p>	<p>The GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to reflect the updated IEMA Guidance on reporting the significance of GHG emissions.</p> <p>The GHG Assessment in Chapter 12 Greenhouse Gases of the ES [TR020001/APP/5.01] has been updated to</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				reflect the updated IEMA Guidance on reporting the significance of GHG emissions.	
	Presentation (including Figures and Appendices)	A	No recommendations made.	Noted.	No

B6 Noise and vibration review checklist and summary

Note: 'Ref.' is to tables 2-13 and 2-14 of the WSP on behalf of host authorities response.

Table B6.1: Noise and vibration

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	Reference is comprehensive. See Appendix A.	Noted	No
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	Weather conditions now described during noise surveys and reasons for omitting certain noise data due to weather conditions explained. Noise surveys stated to conform to relevant guidance for data collection method/technique.	Noted	No
2.2	Do the data collection methods follow relevant guidance?	B	Collection methods follow relevant guidance, but large periods omitted due to weather. See Section 2.0 of Noise Addendum included as Appendix A .	Baseline sound monitoring has been undertaken following the principles in BS 7445-1 2003. Commentary on any limitations due to omitted weather data in baseline noise monitoring has been provided in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
2.3	Is the study area identified appropriately?	A	Study area is extensive, much larger than the area likely to be affected by noise levels above LOAEL. No comment on why the	Noted. The study area is influenced primarily by the areas in which aircraft are likely to be below 4,000ft and the	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			study area has changed between the 2019 PEIR and the 2022 PEIR is provided.	Lowest Observable Adverse Effect Level (LOAEL) noise contours, in line with policy. The study area has therefore changed in line with changing input assumptions and the change to a 2019 baseline as described throughout Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	
2.4	Have all the resources/receptors been considered?	B	Residential and school receptors are identified. Reference is made to other receptors, such as public buildings, which are not identified. We assume key relevant resources/receptors have been identified through the Noise Working Group, although PEIR does not elaborate. No reference is made to noise important areas. The ES should clarify how relevant resources have been selected and identify any noise important areas within the study area.	Noise Important Areas and noise sensitive non-residential receptors have been identified and assessed in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] in line with best practice guidance (e.g., IEMA Guidelines on Environmental Noise Impact Assessment).	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	C	Standards for different receptor types provided, however nature of receptors and sensitivity standards not provided at each measurement location.	Sensitivity of non-residential receptor types are used to inform the assessment of significant effects in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
2.6	Has there been consultation with the relevant statutory bodies?	A	Consultation was held through the Noise Working Group.	Noted	No
2.7	Is the future baseline scenario adequately described?	B	Future noise conditions in the absence of development (DN) modelled using consistent	A sensitivity test using a '2019 Consented' baseline (derived for this	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			techniques. Noise model not currently calibrated with existing Condition 10 or compliant with CAA modelling recommendations. See Appendix A .	purpose by adjusting the fleet mix that occurred in 2019 to reach a modelled noise impact that would sit within the existing 2019 short term limits) is summarised in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] and presented in detail in Appendix 16.1 Noise and Vibration Information of the ES [TR020001/APP/5.02] .	
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	C	Assumed aircraft radar data from 2017 still valid with no reasoning. Numbers used for departure route splits not consistent across various noise documents. Data limitations from survey measurements being omitted due to weather not addressed. Comparison of air noise and ground noise leading to same criteria not justified. See Appendix A.	Aircraft radar data from 2019 has been used to validate the model used for the noise assessment in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] . Departure route splits have been updated based on actual movement data for 2019. Commentary on any limitations due to omitted weather data in baseline noise monitoring has been provided in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] . There are no current standards or guidance available specific to aircraft ground noise. Assessment criteria have been informed by UK Airspace Policy for LOAEL thresholds and the approach adopted in the Bristol Airport Application to increase airport capacity for noise change criteria.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.9	Which are the key receptors for the local authorities?	B	Predominately residences with some schools, but we assume all sensitive receptors including healthcare facilities have been identified through Noise Working Group consultation. The ES should be clear on this.	Noise sensitive non-residential receptors have been identified using a commercial database of building property types and assessed in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] . The approach to identifying sensitive receptors has been presented to the Noise Working Group.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	C	<p>Our comments in section 3 pertain to operational noise only, as we consider the treatment of construction noise and vibration to be appropriate for a PEIR. It is expected that the ES will include a detailed assessment of construction noise and vibration effects in line with relevant standards and good guidance practice.</p> <p>Commitment is made to a Noise Envelope which is expected to constitute a suite of noise controls. A revised sound insulation scheme is proposed, which extends qualification to properties exposed to daytime lower noise levels than the limits contained in the current scheme, but the revisions do not address night-time noise levels.</p>	<p>The assessment of construction noise and vibration has been updated in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] in line with relevant standards and good guidance practice.</p> <p>Information on the Noise Envelope proposals are provided in Green Controlled Growth Explanatory Note [TR020001/APP/7.07].</p> <p>The Noise Insulation Schemes have been updated to include night-time noise eligibility, see Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10]</p>	Yes
3.2	Are the mitigation measures included for significant adverse effects appropriate?	C	In the absence of full consideration of night-time noise, they fall short of what would be expected at a similarly sized UK commercial airport, and therefore do not necessarily reflect best practice.	GCG and the Noise Envelope have been further developed and refined, including night-time limits and threshold to ensure adverse effects are mitigated and minimised as far as	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			The measures are only proposed to be implemented once the airport has exceeded its current permitted throughput, which could lead to local residents being subject to significant adverse effects if rollout of the SIGS is not undertaken quickly enough.	<p>reasonably practicable. More information can be found in the Green Controlled Growth Explanatory Note [TR020001/APP/7.07] and Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].</p> <p>The Noise Insulation Schemes have been updated to include night-time noise eligibility to provide compensatory mitigation, see Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10].</p> <p>The rollout of the Noise Insulation Schemes will prioritise those exposed above SOAEL to ensure that the insulation is in place (if taken up by the resident) as quickly as practicable.</p>	
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	C	Draft proposals for monitoring and reporting actual noise against the Noise Envelope are provided as part of the Green Controlled Growth process and a helpful 'Compensation Proposals' document is provided. The full details of how measures are to be secured and responsibilities are not included, however, we would not necessarily expect such details until later in the ES process.	The Mitigation Route Map [TR020001/APP/5.09] explains where and how mitigation identified in the ES [TR020001/APP/5.01] is to be secured. The Noise Insulation Schemes will be secured through the Section 106 Agreement.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	Monitoring proposals are provided as part of the draft Green Controlled Growth process, and it is expected that these details would be provided more fully in the ES and that the Host Authorities will be consulted as part of their formulation.	A Monitoring Plan is provided in the Green Controlled Growth Explanatory Note [TR020001/APP/7.07] . The Host Authorities have been consulted on the Noise Envelope, GCG and monitoring	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				proposals through the Noise Envelope Design Group.	
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	C	The revised sound insulation scheme should acknowledge night-time noise as well as daytime noise. LLAL may wish to consider or advise on whether they have considered a commitment to ensure all qualifying properties benefit from mitigation before the qualifying effects occur.	The Noise Insulation Schemes have been updated to include night-time noise eligibility, see Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10] . The rollout of the Noise Insulation Schemes will prioritise those exposed above SOAEL to ensure that the insulation is in place (if taken up by the resident) as quickly as practicable.	Yes
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	No justification is provided for the air noise night-time UAEL but we do not necessarily disagree with the value that has been used.	Justification is provided in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] . The night-time Unacceptable Adverse Effect Level (UAEL) is informed by the approach adopted in the Bristol Airport Application to increase airport capacity (18/P/5118/OUT).	Yes
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Yes	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Yes	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.4	Do the assessment methods used follow relevant guidance?	C	There is some latitude on the assessment method to be adopted, but we believe there are a number of issues requiring to be addressed. See Noise Addendum included as Appendix A .	See responses in Section B18.	No
4.5	Have potential effects been considered both during construction and operation?	C	Insufficient information provided. As noted above is expected that the ES will include a detailed assessment of construction and operational noise and vibration effects (as scoped) in line with relevant standards and good guidance practice. See Noise Addendum included as Appendix A .	The assessment of construction and operational noise and vibration effects (as scoped) has been updated in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] in line with relevant standards and good practice.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	B	Yes, for metrics which have been included so far. Inclusion of the proposed supplementary metrics within the ES as expected will enable this to be fully considered.	Supplementary metrics have been used to provide additional context for the assessment of significant effects in Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	Yes
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	Yes	Noted.	No
4.8	Are the residual significant effects clearly stated?	B	Only in summary terms in Section 16.11 of Chapter 16. Residual effects remain unchanged by the proposed mitigation.	Residual significant effects are clearly reported in Section 16.11 and Section 16.14 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	Yes
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	C	Addressed very briefly for climate change impacts in Table 16.49 of Chapter 16. Otherwise not addressed in the PEIR, as	Combined and Cumulative effects are reported in Section 16.9 and Section 16.13 of Chapter 16 Noise and Vibration of the ES	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			expected given the preliminary nature of the analysis. This should be addressed in the ES.	[TR020001/APP/5.01] and Chapter 21 In-combination and Cumulative Effects of the ES [TR020001/APP/5.01] .	
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	The imprecise nature of the noise modelling and the limited assessment undertaken have been noted with insufficient attempts to explain away. Proposals for future, more detailed work are set out but must be implemented rather than ignored (see Appendix A for issues such as custom flightpaths and noise monitoring locations omitted).	Noted, responses to comments raised in WSP Report Appendix A are presented in Section B18 of this document.	No
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	Yes, although the noise section has not responded to at least one scoping report point. See Noise Addendum included as Appendix A .	Noted, responses to comments raised in WSP Report Appendix A are presented in Section B18 of this document.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	Yes, although this is limited by the preliminary nature of the analysis.	Conclusions are clearly reported in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Yes	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	A	Although we take issue with a number of factors, the document appears to be internally consistent.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6.2	Is the PEIR readable to the audience for which it is intended?	A	Yes	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	Reference to LOAEL and SOAEL could be avoided using less technical descriptors, but a non-technical explanation is provided.	Noted. It is considered important and appropriate to use the definitions in the Noise Policy Statement for England to describe the terms LOAEL and SOAEL	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	C	<p>NTS states that worst case noise levels expected to occur in 2043, which is not stated in the PEIR (see Noise Addendum)</p> <p>NTS states that there is an expected air noise reduction from the modelling (16.1.3). The PEIR states that this only occurs when comparing 2043 against 2019, not 2043 Do Something vs. 2043 Do Nothing. This is clarified later in NTS but could be taken to be misleading.</p> <p>NTS states noise envelope will allow the noise benefits of new aircraft technology to be shared between the airport and affected communities. PEIR states this is only true up to 2039 (27 mppa) and not true up to 2043 (32 mppa).</p>	<p>The Environmental Statement – Non-technical Summary [TR020001/APP/5.04] has been updated to provide additional clarity and avoid misinterpretation.</p> <p>The Noise Envelope proposals in the Green Controlled Growth Explanatory Note [TR020001/APP/7.07] have been developed to demonstrate how benefits will be shared between the airport and affected communities both early on and following the mid-2030s when benefits of next-generation aircraft are expected to become available.</p>	Yes
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	A	The figures are comprehensive,	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? –	B	Missing is a clear analysis of a peak noise year and when it is expected to occur, normally before the year of full capacity, but	This has been clarified in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] for the core case, with commentary on how this	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Please provide further commentary if required.		this is dependent on the rate of uptake of new generation low noise aircraft.	could be affected by sensitivity tests (for example slower or faster growth).	
Conclusion					
	Legislation, Policy and Guidance Overall conclusion A		None	Noted.	No
	Baseline Information Overall conclusion B		The noise contour baseline is set for 2019, raising the following issues: The contour cannot be correlated with baseline measurements, made in 2018/2019 outside the 92-day summer contour period; Night noise levels breached current planning condition 10 in 2017 and 2018. Day and night noise levels breached the condition in 2019.	With reference to The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (which refers to the baseline scenario as “a <i>description of the relevant aspects of the current state of the environment</i> ” in Schedule 4, paragraph 3), it is considered appropriate to continue to model the noise impact that occurred in 2019 using actual air traffic movement data to represent the ‘current baseline’. The 2019 noise contour has been validated using airport noise monitoring terminal data collected in the 2019 92-day summer period. However, a sensitivity test using a ‘2019 Consented’ baseline (derived for this purpose by adjusting the fleet mix that occurred in 2019 to reach a modelled noise impact that would sit within the existing 2019 short term limits) is presented in Noise and	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				Vibration Information in Appendix 16.1 of the ES [TR020001/APP/5.02].	
	<p>Mitigation, Enhancement and Monitoring</p> <p>Overall conclusion B</p>		<p>The revised Sound Insulation Scheme ignores night-time noise, falling short of current good practice at other airports, and may need to be revised to fully reflect the policy proposals outlined by the government in Aviation 2050.</p> <p>Draft monitoring proposals are included in within Green Controlled Growth document.</p>	<p>The Noise Insulation Schemes have been updated to include night-time noise eligibility and is in line with policy proposals outlined by the Government in Aviation 2050, see Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10].</p>	Yes
	<p>Assessment of Significant Effects</p> <p>Overall conclusion B</p>		<p>The preliminary nature of the PEIR findings needs to be emphasised. A considerable amount of technical work needs to be done to ensure that the ES contains an accurate and comprehensive assessment of noise effects. Ground noise impact criteria should be justified by supporting evidence and may require revision/expanding to reflect the full noise effects of the proposed expansion. The air noise assessment does not appear to fully account for the existing noise controls (planning conditions).</p> <p>Comparisons of those experiencing significant effects in 2043 against those in 2019 could be considered misleading as greater numbers than allowed under extant planning conditions were subject to significant effects in 2019, potentially skewing any comparison.</p> <p>The air noise model is either insufficiently accurate to identify the future benefits of new generation, low noise aircraft or these benefits will not arise as might reasonably be expected.</p>	<p>Additional technical work has been undertaken since the PEIR was published as part of the 2022 statutory consultation and is described in the ES.</p> <p>There are no current standards or guidance available specific to aircraft ground noise. Assessment criteria have been informed by UK Airspace Policy for LOAEL thresholds and the approach adopted in the Bristol Airport Application to increase airport capacity for noise change criteria.</p> <p>A sensitivity test using a ‘2019 Consented’ baseline is presented in Noise and Vibration information in Appendix 16.1 of the ES [TR020001/APP/5.02] to address the existing noise limits.</p> <p>It is noted that the future benefit of next-generation aircraft is not currently</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>It is expected that the ES will include a detailed assessment of construction noise and vibration effects in line with relevant standards and good guidance practice. Commitments to days and hours of working need to be clearly set out.</p>	<p>known, though a sensitivity test has been undertaken to examine the potential noise benefit that they may provide (see Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]). The Noise Envelope provides a mechanism for these benefits to be shared with the community once they are quantifiably known.</p> <p>The assessment of construction and operational noise and vibration effects (as scoped) has been updated in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] in line with relevant standards and good practice. Details on working hours are provided in the Code of Construction Practice.</p>	
	<p>Conclusions Overall conclusion A</p>		<p>The conclusions may reflect the likely noise outcomes, but they are not robustly supported by the analysis set out in the PEIR.</p>	<p>Noted</p>	<p>No</p>
	<p>Presentation (including Figures and Appendices) Overall conclusion B</p>		<p>Construction and surface access assessments are for daytime only. These either need to be expanded or clear justification for omitting the night-time provided.</p>	<p>Construction and surface access noise assessments have been updated to include night-time in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].</p>	<p>Yes</p>

B7 Soils and geology review checklist and summary

Note: 'Ref.' is to tables 2.-15 and 2-16 of the WSP on behalf of host authorities response.

Table B7.1: Soils and Geology

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	<p>The PEIR Volume 1 Section 10.2 refers to legislation, policy and guidance including the Airport National Policy Statement.</p> <p>Consideration has been given to including local plans:</p> <ul style="list-style-type: none"> • Central Bedfordshire Local Plan 2034, Pre-submission, January 2018 policies relating to contaminated land. • North Hertfordshire District Council Proposed Submission Draft Local Plan for 2011-2031, October 2016. • Hertfordshire Minerals Local Plan Review 2002-2016 and the Hertfordshire Minerals Local Plan (2016-2031) Consultation Draft Published in 2017. <p>As recommended, the Planning Practice Guidance date has been updated to July 2019. Suggest it may be worth reviewing references to sections provided in Table 17.1 'how and where addressed in PEIR' to include:</p> <p>Row 1, refers to embedded mitigation should the reference also include section 17.8 (embedded mitigation)?</p> <p>References to section 17.1 seem to link to elsewhere in the document?</p>	Noted. Cross references checked and updated along with embedded links in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	Described in Section 17.5	Noted. This detail has been included in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	No
2.2	Do the data collection methods follow relevant guidance?	A	The data collection methods follow guidance as mentioned within Section 17.2. It was previously noted that the methodology DMRB Geology and Soils and DMRB Volume 11, Section 2 Part 5 Assessment and Management of Environmental Effects; have been superseded by the LA 109 Geology and Soils and LA 104 Environmental assessment and monitoring. It has been confirmed however, that the methodology set out in the scoping opinion which includes DMRB was agreed with relevant consultees during a working group meeting held on 26 th July 2021. Details of the meeting are presented in Section 17.4 and referred to in 17.5.12 within the methodology.	Noted. The same methodology has also been used for the assessment in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	No
2.3	Is the study area identified appropriately?	A	Reference has been made to the Study Area in 17.3.6 including justification of distances and a table outlining study area buffers (Table 17.6). Assessment for groundwater surface water and potable water abstraction as receptors to land contamination has been extended to 2km. Cross reference included in 17.3.1 for Chapter 20 Water Resources for the full assessment of groundwater, surface water and ground water abstractions.	Noted. The study area is the same for Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			It has been noted that the study areas have been agreed with relevant consultees during a working group meeting held on 26 th July 2021. Details of the meeting are presented in Section 17.4.		
2.4	Have all the resources/receptors been considered?	B Although watching brief is included in 17.3.9 this could also be pulled through to management of the site and remediation strategy.	<p>All receptors have been considered however the scoping opinion responses suggest that geology receptors relating to the excavation of chalk leading to potential features of geological interest being revealed should be considered in respect of future management and use of the site. Based on this information section 17.3.9 refers to completing a watching brief to be undertaken during any earthworks and a record made for any features of significance identified.</p> <p>A cross reference has been included in section 17.3.5 to notes that the detailed assessment of risks to groundwater surface water and groundwater abstractions has been included in Chapter 20 Water Resources.</p> <p>The built environment to include building, services and essential infrastructure have been included throughout the chapter.</p>	Noted. The watching brief for the potential features of geological interest being revealed has been added to the Embedded Mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to the Code of Construction Practice in Appendix 4.2 of the ES [TR020001/APP/5.02] , to ensure this mitigation is secured.	Yes
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	B	<p>Yes, the sensitivity of the receptors has been identified using appropriate criteria.</p> <p>Cross reference to Chapter 20 Water Resources for any effects to controlled waters has been included</p>	Noted. The watching brief for the potential features of	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>throughout section 17.9 as part of the preliminary assessment.</p> <p>Consideration has been included to building structures/below ground services.</p> <p>It has been confirmed that geology and geomorphological features of scientific interest has been scoped out and therefore receptors in relation to the excavation of chalk will not be included as part of the assessment will not be included. A watching brief is noted in section 17.3.9 to be included as part of any excavation works within the chalk. It would be beneficial for this to be carried through to any site management or remediation strategy.</p>	<p>geological interest being revealed has been added to the embedded mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to the Code of Construction Practice in Appendix 4.2 of the ES [TR020001/APP/5.02], to ensure this mitigation is secured and carried through to site management.</p>	
2.6	Has there been consultation with the relevant statutory bodies?	A	<p>Consultation has been undertaken with the relevant statutory bodies (Table 17.7).</p> <p>In addition, it has been noted that a programme of consultation and further meetings is currently being developed which will be shared with relevant statutory bodies.</p>	<p>Noted. The Contaminated Land Technical Working Group (CL TWG) continue to meet on an ad hoc basis. Two further meetings were held:</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>9 February 2022 to discuss the proposed groundwater, gas, and leachate monitoring programme.</p> <p>12 July 2022 to discuss the comments on the PEIR and agree SoCG.</p> <p>The purpose and outcome of these meetings has been added to Table 17.7 in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01].</p> <p>A Foundation Works Risk Assessment has also been prepared for consultation in Appendix 17.7 of the ES [TR020001/APP/5.02].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.7	Is the future baseline scenario adequately described?	A	Future baseline has been included from 17.7.26 to 17.7.29 and will also be included in the ES.	Noted and agreed. The future baseline has been included in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and amended as necessary to current likely future baseline.	No
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	A	All is made clear; assumptions and limitations are discussed in Section 17.6.	Noted and agreed. This forms part of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	No
2.9	Which are the key receptors for the local authorities?	N/A	A working group meeting held on 26 th July 2021 discussed and agreed receptors with LPA. Details of meeting are provided in Table 17.7. Previous likely receptors mentioned as part of the 2019 PEIR review have been addressed and considered. It should be noted that cross referencing to waste and resources chapter (19) seems to be limited and only mentioned in section 17.1. Letter from LBC dated 29/03/2022 outlines concern with landfill gas protection measures RE lateral migration following surcharging processes and auditing of migration during and after construction works.	Noted. Additional cross-referencing has been added to Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] to Chapter 19 Waste and Resources . Further to CL TWG Meeting 3	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>additional detail has been included in the Outline Remediation Strategy for the Eaton Green Landfill Appendix 17.5 of the ES [TR020001/APP/5.02] on the requirements for the proposed boundary gas protection measures identified for detailed design stage. A ground gas monitoring programme has also been developed by the contractor for pre, during and post construction ground gas monitoring which includes monitoring for off-site ground gas migration to confirm efficacy of the boundary control measures. The proposed mitigation will be secured</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				through Requirement in the DCO.	
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B – Additional consideration required for gas ground	<p>Refers to embedded and good practice mitigation in Section 17.8 and includes reference to remediation strategy presented in Appendix 17.5.</p> <p>Cross referencing has been included for soils management plan (Appendix 6.6); draft CoCP (Appendix 4.2); and a site waste management plan (Appendix 19.1). Cross referencing for mitigation measures on controlled waters and a full reference to the waste and resources chapter has not been noted within this section and may be beneficial for completeness.</p> <p>Reference to the watching brief mentioned in section 17.3.9 for the excavation of chalk to record and features of geological importance should be considered in the management of the site and remediation strategy. LBC letter dated 29/03/2022 requests options of feasible solutions for the contractor RE lateral ground gas migration.</p> <p>There are discrepancies on ground gas mitigation solutions. For example, boundary protection systems are said to be embedded while earlier in the Chapter they are said to be subject to feasibility assessment or consideration by the contractor.</p> <p>Remediation strategy in Appendix 17.5 does not outline options.</p>	<p>Noted. Cross-referencing to the mitigation on controlled waters and to Chapter 19 Waste and Resources has been added to the embedded mitigation and good practice section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01].</p> <p>The watching brief for the potential features of geological interest being revealed has been added to embedded mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>01] and to the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02], to ensure this mitigation is secured.</p> <p>The gas protection measures to the boundary are embedded mitigation. It is only the form these will take which is to be determined at detailed design stage. This is clarified in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01]. This mitigation will be secured by the Outline Remediation Strategy for the Eaton Green Landfill Appendix 17.5 of the ES [TR020001/APP/5.02] and associated Requirement in the DCO.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>Potential for off-site migration of landfill gases is also included within preliminary assessment Section 17.9 of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01]. Here it is noted that boundary gas control measures to be installed prior to major earthworks within the landfill.</p> <p>Boundary gas protection measures are outlined in the remediation strategy – Section 7.3 as either virtual barrier or passive venting. Further to the CL TWG Meeting 3 additional detail has been included on requirements for any measures adopted to achieve</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				in the Outline Remediation Strategy for the Eaton Green Landfill in Appendix 17.5 of the ES [TR020001/APP/5.02] . It is also stated that the best option is to be identified at detailed design stage.	
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B – Additional cross referencing may be beneficial; and consideration for additional mitigation measures	Mitigation measures are detailed in Section 17.8, 17.9 and 17.10. Cross referencing on controlled waters is noted in section 17.9. only. Needs to be cross referenced in 17.8 as well. LBC letter dated 29/03/2022 notes concern for no significant effect and that no additional mitigation measures are required (17.10) prior to being able to tackle the migration of ground gas.	Noted. Additional cross-referencing has been added to Section 17.8 of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] . The gas protection measures to the boundary are embedded mitigation. It is only the form these will take which is to be determined at detailed design. This has been clarified in Chapter	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>17 Soils and Geology of the ES [TR020001/APP/5.01]. This mitigation will be secured by the Outline Remediation Strategy for the Eaton Green Landfill Appendix 17.5 of the ES [TR020001/APP/5.02] and associated Requirement in the DCO.</p> <p>Potential for off-site migration of landfill gases is also included within preliminary assessment Section 17.9. Here it is noted that boundary gas control measures to be installed to the boundary of the landfill prior to major earthworks.</p> <p>Boundary gas protection measures are outlined in the</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>remediation strategy – Section 7.3 as either virtual barrier or passive venting. Further to the CL TWG Meeting 3 additional detail has been included on requirements for any measures adopted to achieve in the Outline Remediation Strategy for the Eaton Green Landfill, Appendix 17.5 of the ES [TR020001/APP/5.02].</p> <p>A substantial amount of landfill gas monitoring has been undertaken including to the boundary to ascertain if landfill gas is migrating off-site. The data to date indicate this is not occurring. The additional gas monitoring</p>	

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	Aspect being reviewed	WSP code	Comments		
				programme has been agreed at CL TWG Meeting 2. The monitoring programme will be further developed by the contractor for pre, during and post construction ground gas monitoring which will include monitoring for off-site landfill gas migration. Mitigation will be secured through Requirements in the DCO.	
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	B – Additional cross referencing may be beneficial; and further clarity required on ground gas regime	Mitigation measures are detailed in Section 17.8, 17.9 and 17.10. Section 17.9 outlines which phase of works the mitigation measures should be implemented. Cross referencing on controlled waters is noted in section 17.9 only. Needs to be cross referenced in 17.8 as well Letter from LBC dated 29/03/2022 requests greater clarity on implementation of gas regime.	Noted. Additional cross-referencing has been added to Section 17.8 of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] . As outlined in 3.2 additional clarity has been included on the gas regime and control	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				measures in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and Outline Remediation Strategy for the Eaton Green Landfill in Appendix 17.5 of the ES [TR020001/APP/5.02] .	
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B – Consider review of ground gas feasible options and monitoring frequency	<p>Monitoring discussed in section 17.13 for pre-construction, construction and operational monitoring. This has been based on baseline data gathered during previous GIs.</p> <p>Letter from LBC dated 29/03/2022 requests for feasible options with regards to gas mitigation measures. Remediation strategy in Appendix 17.5 does not outline options. In addition, queries are raised with regards to monitoring frequency and whether sufficient due to the character of the landfill changing quickly.</p>	<p>Noted.</p> <p>The Outline Remediation Strategy for the Eaton Green Landfill in Appendix 17.5 of the ES [TR020001/APP/5.02] presents a series of gas protection measures including to prevent lateral migration of gas off-site, options identified are a virtual barrier or gas vent trench. It</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>is also stated that this will be further addressed at the detailed design stage with advice from the appointed remediation contractor.</p> <p>The additional gas monitoring programme has been agreed at CL TWG Meeting 2. The monitoring programme will be further developed by the contractor for pre, during and post construction ground gas monitoring which will include monitoring for off-site landfill gas migration. The frequency of the monitoring is expected to reflect the potential for the gas regime in the landfill to be subject to rapid change due to construction</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				works. Mitigation will be secured through Requirement in the DCO.	
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	N/A	<p>Previous improvements recommended in PEIR review 2019 have been considered and included as part of a remediation strategy (Appendix 17.5) and summarised in section 17.8.</p> <p>It has been noted that additional meetings are proposed to discuss and agree mitigation and monitoring strategies.</p> <p>Suggest including a mention on the watching brief for the excavation of chalk and record any features of geological importance.</p> <p>Letter from LBC dated 29/03/2022 requests for feasible options with regards to gas mitigation measures. Remediation strategy in Appendix 17.5 does not outline options.</p>	<p>Noted.</p> <p>A meeting was held on 9 February 2022 to present and discuss the proposed gas and groundwater monitoring strategy to add to the baseline data. The minutes record the proposed monitoring strategy up to submission of the application for development consent was agreed.</p> <p>The watching brief for the potential features of geological interest being revealed has been added to the embedded mitigation section of Chapter 17 Soils</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>and Geology of the ES [TR020001/APP/5.01] and to the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02]. This mitigation will be secured by Requirement of the DCO.</p> <p>The Outline Remediation Strategy for the Eaton Green Landfill in Appendix 17.5 of the ES [TR020001/APP/5.02] presents a series of gas protection measures including lateral migration of gas off-site. Boundary protection measures identified include virtual gas barrier and vent trench. The document also states this will be</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				further addressed at the detailed design stage with advice from the appointed remediation contractor to identify the optimal option for gas control at the boundary. The boundary control measures have been assumed to be installed at prior to the main landfill works.	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	Yes, detailed in section 17.5	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Yes, detailed in Table 17.9	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Yes, defined in section 17.5 (17.5.19 and 17.20; and Table 17.10.)	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	Yes, as there is no specific methodology for determining the significance effects to soils and geology. It was previously noted that the methodology DMRB Geology and Soils and DMRB Volume 11, Section 2	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			Part 5 Assessment and Management of Environmental Effects; have been superseded by the LA 109 Geology and Soils and LA 104 Environmental assessment and monitoring. It has been confirmed however that the methodology set out in the scoping opinion which includes DMRB was agreed with relevant consultees during a working group meeting held on 26 th July 2021. Details of the meeting are presented in Section 17.4.		
4.5	Have potential effects been considered both during construction and operation?	B – consideration for watching brief to be pulled through to management of the site and remediation strategy.	<p>Yes, all potential effects have been considered both during construction and operation, detailed in section 17.9. Effects also include building structures / below ground services, referred to as buried infrastructure.</p> <p>Effects on geology receptors relating to the excavation of chalk leading to potential features of geological interest being revealed have now been considered in section 17.3.9 to include a watching brief during earthworks and a record to be made if any features of geological importance are identified. Cross referencing for assessment of effects on controlled waters has been included.</p>	<p>Noted.</p> <p>The watching brief for the potential features of geological interest being revealed has been added to the embedded mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to Section 15 of the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02], to ensure this mitigation is included as a Requirement of the DCO which will</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				ensure it is undertaken.	
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	Yes, the terms are included and outlined as part of the methodology section however do not appear to be included as part of the assessment text in section 17.9.	The terms have been added to the assessment text in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	Yes
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	These are identified and described in table 17.9 and included as part of the assessment in section 17.9.	Noted.	No
4.8	Are the residual significant effects clearly stated?	B – Consideration required for residual effects on ground gas	Yes, stated in Section 17.11 that residual effects remain as those reported in section 17.9 of the PIER. Also shown in Table 17.24. LBC letter dated 29/03/2022 notes Table 17.24 may lead to confusion or insufficient action in implementing gas mitigation measures; and residual effects conclude as beneficial prior to ground gas migration being tackled.	Noted. Table 17.4 has been updated to clarify when mitigation measures are installed.	Yes
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	N/A - provided in different part of report. Additional cross	Cumulative assessment is no longer summarised within this chapter. A cross reference note in section 17.3.2 (zone of influence) states that a full assessment of cumulative effects will be included in Chapter 21 In-Combination and Cumulative Effects Assessment. May be beneficial to include a heading for cumulative effects to make this clearer.	The structure of this ES and approach to cumulative effect assessment is described in Chapter 5 Approach to Assessment and	No

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	Aspect being reviewed	WSP code	Comments		
		referencing may be beneficial		Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] and each aspect chapter follows it. The cross reference is clear.	
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B – Additional consideration required for sensitivity analysis	<p>As outlined in Section 17.6, this details assumptions and limitations associated with dynamic nature of the environment where conditions may change during the construction and operational phases as well as where GI has not been carried out there is potential for contamination to exist.</p> <p>Letter from LBC dated 29/03/2022 notes that the sensitivity analysis has not included uncertainty in the assessment or analysis of ground gas.</p>	<p>Noted.</p> <p>The gas results have been assessed in the Detailed Quantitative Risk Assessment (DQRA) in Appendix 17.4 of the ES [TR020001/APP/5.02]. Multiple lines of evidence were used to assess the risk due to the implicit uncertainty. The worst case scenario as identified in the assessment has been used as a conservative measure. The assessment</p>	Yes

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	Aspect being reviewed	WSP code	Comments		
				<p>concluded that there is a residual risk from ground gas. The on-going monitoring is a means to address the uncertainty and further assessment, which will support detailed design stage.</p> <p>Additional wording has been included in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] on assumptions and limitations to be more transparent on this.</p>	
4.11	Has the scoping opinion been considered in the preparation of the PIER as applicable at this stage?	B – Additional consideration required for sensitivity analysis.	<p>The main Scoping Opinion comments relevant to the Geology and Soils assessment are presented in Table 17.5 with an explanation of how these comments have been addressed within the PIER or will be address in the ES, to include a note on including cross referencing for the groundwater assessment in Chapter 20 Water Resources.</p> <p>Row 4.6.3 – should it be Section 17.7 not 17.1? Row 4.6.8 - notes clear referencing is included for Chapter 13 (now 19) Waste and Resources in</p>	<p>Noted. Additional and clearer cross-referencing to Chapter 19 Waste and Resources has been included in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01]. Cross-referencing to</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			particular section 17.3., however no cross referencing to Chapter 19 noted in section 17.3	internal sections checked and amended as appropriate.	
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	A	Yes, a summary of the assessments completed has been outlined in table 17.19. Conclusions for the preliminary assessment are summarised in section 17.14 within table 17.24 in the PIER. Additional tasks to be completed are outlined in section 17.15 to be presented in the ES.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Yes, these are in Table 17.24.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	A	It is considered that the PIER Chapter 17 Geology and Soils is unbiased, balanced, comprehensive and transparent in its logic and presentation.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	A	It is considered that the PIER Chapter 17 Geology and Soils is readable to the audience for which it is intended.	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B – Suggestion for additional cross referencing and reference to	Yes, non-technical summary is concise and clear with more detailed information presented within the main chapter 17. May be useful to include that the CoCP is presented within Appendix 4.2. Cross referencing includes agricultural land quality and farm holdings, and waste and resources. There does not seem to be any cross reference for the Water Resources chapter (20) which may be beneficial to include for completeness.	Noted. Reference to the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] has been added to the ES	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
		appendix 4.2		<p>NTS [TR020001/APP/5.04].</p> <p>Cross reference to Chapter 20 Water Resources and Flood Risk has been added to the ES NTS [TR020001/APP/5.04].</p>	
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	The Non-Technical Summary presentation matches the findings of the PIER.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	A	Figures 17.1 and 17.2 are what is expected to support this type of document.	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	B	<p>Appendix 17.1 PRA; 17.2 GQRA; 17.3 DQRA human health; 17.4 DQRA controlled waters; and 17.5 Remediation Strategy are what is expected to support this type of document. It has been noted in the limitations section 17.6 that the investigations have focused on Area A however this will be addressed prior to construction and allows for worst case assumptions.</p> <p>Additional information required within 17.5 Remediation Strategy to address comments in Letter from LBC dated 29/03/2022.</p>	<p>Noted.</p> <p>Boundary gas protection measures are outlined in the remediation strategy – Section 7.3 as either virtual barrier or passive venting, these are options only, control measure constructed to be</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				determined at detailed design. Further to the CL TWG Meeting 3 additional detail has been included on the requirements for any measures adopted to achieve in the Outline Remediation Strategy for the Eaton Green Landfill in Appendix 17.5 of the ES [TR020001/APP/5.02] .	
Conclusion					
	<p>Legislation, Policy and Guidance</p> <p>This section contains a good number of Legislation, policy and guidance documents however some key local plan policies have been omitted and guidance dates need updating.</p>		No further recommendations with the exception of checking the references to sections are correct.	Noted. Checking of cross-referencing to internal sections in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] has been completed.	Yes
	<p>Baseline Information</p>		Suggest reference to the watching brief mentioned for the excavation of chalk to record and features of	The watching brief for the potential	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Good level of baseline information provided, however to aid the viewer further cross referencing between chapters should be implemented. There needs to be further clarification on what receptors are being assessed in this chapter e.g. Table 10-4 mentions building structures however these are not mentioned anywhere else in the chapter.		geological importance should be considered in the management of the site and remediation strategy.	features of geological interest being revealed has been added to the embedded mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] . A requirement in the DCO will ensure this mitigation is implemented.	
	<p>Mitigation, Enhancement and Monitoring</p> <p>Generally good level provided for Mitigation, Enhancement and Monitoring, however there needs to be clarification on what receptors are being assessed in this chapter. Further reference is required for mitigation measures relating to ground gas and leachate, imported material and, potential exposure of Chalk Geology.</p>		<p>Cross referencing for mitigation measures on controlled waters and a full reference to the waste and resources chapter has not been noted within this section and may be beneficial for completeness. Reference to the watching brief mentioned in section 17.3.9 for the excavation of chalk to record and features of geological importance should be considered in the management of the site and remediation strategy. Further information required with regards to the landfill ground gas mitigation measures (as outlined in LBC letter dated 29/03/2022)</p>	Additional cross referencing added to Section 17.8 in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to Chapter 19 Waste and Resource and Chapter 20 Water Resources and Flood Risk.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>The watching brief for the potential features of geological interest being revealed has been added to the embedded mitigation section of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] and to the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02]. A requirement in the DCO will ensure this mitigation is implemented.</p> <p>Boundary gas protection measures are outlined in the remediation strategy – Section 7.3 of Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] as either virtual barrier or passive</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				venting. Further to the CL TWG Meeting 3 additional detail has been included on the requirements for any measures adopted to achieve in the Outline Remediation Strategy for the Eaton Green Landfill, Appendix 17.5 of the ES[TR020001/APP/5.02] .	
	<p>Assessment of Significant Effects</p> <p>Generally good level of assessment however there needs to be clarification on what receptors are being assessed in this chapter.</p>		It may be beneficial to include the duration and revisability of the effects as part of the assessment text in section 17.9.	The duration and revisability of the effects have been added to the assessments of effects in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] .	Yes
	<p>Conclusions</p> <p>Generally good level of information, however the structure needs to be defined.</p>		As outlined in LBC letter dated 29/03/2022 Table 17.24 (assessment summary) should provide clarification on implementing gas mitigation measures.	It is noted that the gas mitigation measures outlined in Chapter 17 Soils and Geology	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				of the ES [TR020001/APP/5.01] and the Outline Remediation Strategy for the Eaton Green Landfill, Appendix 17.5 of the ES [TR020001/APP/5.02] are to be secured through Requirement in the DCO. This detail has been added to Table 17.24 of Chapter 17 Soils and Geology [TR020001/APP/5.01].	
	<p>Presentation (including Figures and Appendices)</p> <p>The Chapter is presented well however, could benefit from more cross referencing between Chapters.</p>		<p>The PEIR is well presented. Cross referencing for mitigation measures on controlled waters and a full reference to the waste and resources chapter may be beneficial for completeness in section 17.8. Additional cross referencing may also be beneficial for the waste and resources chapter which was a requirement from the scoping comments.</p>	<p>Noted. Additional cross referencing added to 17.8 in Chapter 17 Soils and Geology of the ES [TR020001/APP/5.01] to Chapter 19 Waste and Resource and Chapter 20 Water Resources and Flood Risk.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		

B8 Water resources review checklist and summary

Note: 'Ref.' is to table 2.17 of the *WSP on behalf of Host authorities response*.

Table B8.1: Water resources

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>The Environment Act 2021 passed into UK law in November 2021 and should be considered for the ES assessment.</p> <p>DMRB LA113 was used in the PEIR chapter to determine an importance value for each feature and receptor. Although it is considered a methodology to generally be used for assessing impacts on highways schemes, it is also often the most appropriate methodology to use for other schemes which may have similar types of construction approaches as highways schemes. For groundwater, the use of this assessment methodology needs to be confirmed and agreed with the EA prior to being used for the preparation of an Environment Statement chapter.</p> <p>We acknowledge the use of the current climate change guidance embedded within the National Planning Policy Framework; however updated UK Climate Projections (UKCP18) were published in 2021 and are recommended to be considered. Whilst these are unlikely to materially affect the findings of the assessment, the assessment should recognise the</p>	<p>The Environment Act 2021 has been considered within the Water Resources assessment, as documented in Table 20.1 of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Support for the use of Design Manual for Roads and Bridges (DMRB) LA113 is noted. Consultation has taken place with the Environment Agency (EA) who consider LA113 suitable for the assessment.</p> <p>UKCP18 updated 2021 Climate Change projections have been applied to Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] where appropriate (including EA flood</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>potential difference to the published EA Flood Maps and LLFA published documents.</p> <p>Consideration of Luton Local Plan Policy LLP6 ‘London Luton Airport Strategic Allocation: should be made; namely, Part E and Part F: where Part F: iii states: “provision is made for sustainable drainage and the disposal of surface water in order to ensure protection of the underlying aquifer and prevent any harm occurring to neighbouring and lower land”.</p>	<p>maps). Application of the updated projections do not materially affect the findings of the assessments. The assessment recognises the difference between the EA Flood Maps and LLFA published documents and has taken any differences into account in the assessment.</p> <p>LLP6 has been considered within the Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]). The approach to drainage for the Proposed Development has been developed to provide a system that can collect and manage the surface water runoff generated by extreme rainfall events without putting airport users or the local residents at any increased risk of flooding. The drainage system has been designed for a 1 in 100 year flood event plus a 40% allowance for climate change. Principles of sustainable drainage have been applied and this is demonstrated with the preferential use of infiltration drainage. This ensures that water is not directed to rivers, stream or sewers at increased rates and volumes. A Flood Risk Assessment [TR020001/APP/5.07] is submitted with the application.</p>	

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	B	<p>Groundwater sections include a comprehensive set of data sources, including the Environment Agency’s Vale of St Albans groundwater model. More detail on groundwater model calibration points and representation of the site-specific conditions would be useful. It would be useful to include the most recent groundwater level data for calibration to understand the current groundwater flow regime accurately. Groundwater level monitoring methods are not defined; discrete manual dip method applied and therefore maximum groundwater levels and variations carry uncertainty (greater variation and higher groundwater elevations likely) – this needs to be outlined in the report in the assumptions and limitations.</p> <p>It seems fairly obvious that the water levels were recorded using a manual dip meter at the intervals described in the report text (Appendix 20.3) and on the figures (Figure 9 and Figure 10, Appendix 20.3). Agreed on the comments on greater variation and groundwater levels being likely, however, due to the long durations between measurement intervals. There are no groundwater monitoring wells around new development Area D and Area E.</p> <p>Appendix 20.3, sections 3.2.1 to 3.2.4. The superficial geology and made ground is named, but no lithological descriptions are offered (understand this is included later from GI but publicly available descriptions should include also if possible).</p> <p>Note: Appendix 20.3, paragraph 3.2.5 names the bedrock geology type as “Upper Chalk”. This term is long obsolete and should instead be “White Chalk Subgroup”.</p>	<p>The Hydrogeological Characterisation Report in Appendix 20.3 of the ES [TR020001/APP/5.02] summarises all of the site specific groundwater data collated to date together with monitoring data from local EA boreholes up to July 2022. The Appendix has been updated to note the groundwater monitoring methodologies utilised, together with the assumptions and limitations.</p> <p>The Hydrogeological Characterisation Report in Appendix 20.3 of the ES [TR020001/APP/5.02] has been updated to confirm the methodology utilised to collect groundwater levels.</p> <p>It is noted that there is limited groundwater monitoring in Areas D and E (Figure 17.1 of the ES [TR020001/APP/5.03]). The lack of data in these areas is noted in the assumptions and limitations. Limited construction works are proposed in Areas D and E, with the intention being to utilise the existing infrastructure for the Off-site Car Parks.</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>It is acknowledged that the Environment Agency Catchment Data Explorer has been considered, it is also recommended to obtain Water Framework Directive (WFD) related data directly from the Environment Agency to compliment this data set. Consultation with the Environment Agency, Luton LLFA and utility statutory undertakers should be undertaken to inform a more comprehensive understanding of any local receptor sensitivities. This may, for example, include local knowledge of pressures on the identified waterbodies associated with operations at the Proposed Development site.</p> <p>From a review of the current WFD assessment, this does not appear to have been undertaken. If this is available, then cross referencing to the relevant sections is required and a summary would be beneficial. If no further data are available, then it would be advantageous to also state this and list the resources reviewed.</p> <p>Critical drainage areas that overlap with the proposed development should be recognised and specific design measures should be proposed to reduce the flood risk in these areas where practicable alongside measures throughout the overall proposed development.</p>	<p>The text for the lithological descriptions has been updated in the Hydrogeological Characterisation Report in Appendix 20.3 of the ES [TR020001/APP/5.02] in line with WSP's comments and the term 'White Chalk Subgroup' used.</p> <p>The comment regarding obtaining supplementary Water Framework Directive (WFD) data from the Environment Agency is noted. Within the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02], no bodies progressed to detailed assessment. This being the case, no further WFD data was obtained from the Environment Agency that is not publicly available. The EA and other relevant stakeholders (such as LLFAs and water companies) have been consulted on Chapter 20 Water Resources and Flood Risk [TR020001/APP/5.01] and associated appendices [TR020001/APP/5.02] throughout the preparation of the application for development consent, to reach common ground on the various aspects of the Proposed Development.</p> <p>The Flood Risk Assessment [TR020001/APP/5.07] identifies Critical Drainage Areas which are to</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				be considered in the detailed design of the Off-site Highway Interventions.	
2.2	Do the data collection methods follow relevant guidance?	C	<p>Groundwater level monitoring has been completed but the data collection technique has not been described in the PEIR document. Groundwater quality monitoring mentioned but monitoring frequency or results not described in PEIR, however, a statement reports this will be included in the ES.</p> <p>As commented above, although it is not explicitly stated that groundwater level data was recorded using a manual dip meter, it is easy to deduce this by looking at the figures in Appendix 20.3 which present groundwater level data visually.</p> <p>Paragraph 3.3.3 in Appendix 20.3 comments that a network of monitoring boreholes were used to monitor groundwater (chemical) quality throughout 2018 and 2019, however no further reference to this is made in the report. However, chapter 20.7.17 of the PEIR states that the DQRA provides a detailed account of groundwater quality (Appendix 17.2 in the PEIR).</p> <p>There is no information provided within the WFD assessment regarding collection methods or cross references to relevant data collection methods elsewhere. There is reference to the Hydrogeological Characterisation Report. The section would benefit from cross referencing relevant sections elsewhere or providing a summary.</p>	<p>The groundwater level monitoring technique and details on the groundwater quality monitoring have been included in updates to Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and the Hydrogeological Characterisation Report in Appendix 20.3 of the ES [TR020001/APP/5.02]. Detailed assessment of the groundwater quality (such as monitoring frequency and results) is included and discussed in detail in the DQRA (Appendix 17.4 of the ES [TR020001/APP/5.02]) which is now cross referenced.</p> <p>The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02], has been updated to cross-reference data collection methods.</p>	Yes
2.3	Is the study area identified appropriately?	B	Any receptors outside of the 1km study area that are in hydraulic connectivity to the Proposed Development should be considered as informed by the baseline assessment to encapsulate receptors affected by discharges from sewers, groundwater and surface water	The study area for the Proposed Development has been agreed in consultation with the EA as 1km but extended where appropriate based	Yes

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			<p>flows, for example Luton Hoo Lakes. This approach should be carried through for the cumulative assessment. We note the assessment refers to the River Lee but does not consider impacts to the Luton Hoo Lakes that, given their differing hydrological characteristics, may be subject to differing effect. As the groundwater flow is predominantly fracture driven flow, consultation with the Environment Agency to agree the groundwater study area is recommended. Likely Environment Agency will request a 4-5km search radius for the ES.</p> <p>The WFD assessment has defined the study area in accordance with the PEA for 1km but has also extended this to beyond 1km to encompass the River Mirmam and the River Hiz. This is supported.</p>	<p>on the conceptualisation. Luton Hoo Lakes has been included in the assessment of impacts in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01], and associated appendices [TR020001/APP/5.02]. This approach has been carried forward when undertaking the cumulative assessment.</p> <p>Noted.</p>	
2.4	Have all the resources/receptors been considered?	C	<p><u>Groundwater:</u> Licenced and private groundwater abstractions are included as receptors but impacts to these have not been assessed (could not see any reason given). If the additional groundwater discharges raise groundwater levels, then this could impact groundwater discharges, therefore they should be included in the assessment (this was questioned previously). Degradation of chalk geology as a consequence of infiltration should be assessed. Impacts to groundwater-dependent terrestrial ecosystems (GWDTEs) need to be assessed as part of DMRB guidance, although some have been identified they have not been assessed. Impacts to groundwater-connected surface water bodies haven't been assessed. Impacts to SPZs have not been assessed. Construction-related impacts to aquifers (e.g., increase in turbidity, vehicle spillages etc.) have not been assessed.</p>	<p><u>Groundwater</u> Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01], has been updated to include an assessment of impacts on the receptors noted (abstractions, discharges, groundwater-connected surface water bodies, groundwater-surface water interactions and source protection zones (SPZs)) or additional information provided as to why the receptors have not been considered for further assessment.</p> <p>No designated GWDTE are located within the study area. Potential GWDTEs are discussed within the updated chapter for potential</p>	Yes

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			<p>impacts. The assessment indicates that the potential GWDTEs within the study area are unlikely to be chalk groundwater fed ecosystems, and as such, an assessment in accordance with DMRB guidance, is not required in this instance.</p> <p>The risk of degradation of the chalk geology and construction-related impacts on the aquifer have now been included within Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Surface Water</p> <p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] and Water Cycle Strategy (Appendix 20.5 of the ES [TR020001/APP/5.02]), identify measures to maximise water reuse and minimise water consumption associated with the Proposed Development during construction and operation to minimise impacts on the Affinity Water network, including potential impacts on the water supply and water quality.</p> <p>The identification of these measures and the production of these documents has been completed in close liaison with Affinity Water. Discussions with the utilities companies are ongoing and in</p>	

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			<p>assessment and should be included or cross referenced to the main report.</p>	<p>anticipation of water supply and water treatment challenges, the current design includes on site water treatment facilities and water recovery and reuse to reduce current water supply requirements. It has also been agreed in principle with the water companies that business-as-usual operations will not use any more water than in 2019 when the airport had 18 mppa, even when the Proposed Development reaches 32 mppa.</p> <p>Luton Hoo Lakes is now included in the baseline and assessment in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Licensed surface water abstractions have been identified and assessed in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. No private surface water abstractions have been identified within the area, which is now noted within the chapter.</p> <p>Ecological WFD elements have been included and cross-referenced within Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p>

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			<p><u>Flood Risk Receptors:</u> Previous comment made by WSP in 2019 stated that it would be expected that consideration of roads includes A505 Vauxhall Way as well as Kimpton Road and New Airport Way (A1081). It is unclear if this recommendation has been included. As these roads provide the primary access to the Airport it would be expected to consider this development component as essential infrastructure and as such would be considered to have 'high importance' receptor sensitivity unless otherwise justified. Residential properties receptor group should not be limited to specific roads and should be considered as a catchment in its entirety.</p> <p><u>Water infrastructure:</u> Increase in demand on clean water usage should specifically be assessed including the increase associated with the additional terminal operations. Changes to demand and water quality on surface water wastewater infrastructure should be considered.</p>	<p><u>Flood Risk Receptors:</u> Noted, the roads identified have been included in assessments and this is reflected in the Flood Risk Assessment [TR020001/APP/5.07].</p> <p><u>Water infrastructure:</u> The increase in demand on clean water usage is assessed as part of the Water Cycle Strategy in Appendix 20.5 of the ES [TR020001/APP/5.02]. The changes to demand and water quality on surface water wastewater infrastructure are considered within the Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]). See also comment response above for 'surface water' which details water supply engagement to date.</p>	
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria? (to	B	<p>The assessment methodology has been updated to LA 113. DMRB is often the most appropriate assessment methodology for developments such as this, however it's application should be agreed with the EA. Licenced and unlicensed abstractions are included as receptors but impacts to these haven't been assessed.</p>	<p>The application of DMRB was agreed during consultation with the EA prior to completion of the ES. Licenced and unlicensed abstractions have been identified and</p>	Yes

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	be checked against comments in Appendix 17)			assessed in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] .	
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>The approach to continue consultation with regards to Environmental Permits is supported, however it is expected that fundamental principles are agreed as part of the ES through consultation with relevant statutory bodies.</p> <p>The classification and status of WFD elements have been identified as per the requirements of WFD.</p>	Noted. Engagement with the EA and other relevant statutory bodies (LLFAs and water companies) on the fundamental principles of the Proposed Development has been undertaken throughout the preparation of the application for development consent, as documented within Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]	No
2.7	Is the future baseline scenario adequately described?	B	<p>A brief summary of future baseline has been provided. However, the discussion regarding climate change focusses on likely increase in rainfall intensity and (with reference to Chapter 9) effects of water demand on resource availability.</p> <p>The assessment does not appear to consider increased stress on surface water receptors associated with reduced rainfall and, subsequently, declining water quality and increased sensitivity to polluting discharge from the Proposed Development.</p> <p>Consideration should be given to potential changes in WFD status and quality elements. This would include consideration of measures proposed as part of the River Basin Management Plans.</p>	<p>The sensitivity of the aquifer (a principal aquifer, SPZ3 and a water stressed area) mean that the discharges to ground will need to be non-polluting as documented within Hydrogeological Risk Assessment in Appendix 20.6 of the ES [TR020001/APP/5.02]. As such, the water treatments system will be appropriately designed so that no polluting discharge from the Proposed Development occurs.</p> <p>As no material impact to the WFD status and quality elements of the surface water features from the Proposed Development are anticipated, consideration is not given to potential future changes to WFD status and quality elements.</p>	No

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2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	<p>Assumptions as part of the PEIR are noted. The methods used for monitoring of groundwater levels have not been clearly explained; if these are from discrete manual dips then groundwater levels may be in excess of these levels.</p> <p>Assumptions and limitations are included in the WFD, however, there is no mention of limitations with regard to the absence of specific data (e.g., ecology).</p>	<p>Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] has been updated to explain monitoring methodologies.</p> <p>The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has been updated to recognise limitations of the data used to inform the WFD assessment (including absence of specific data).</p>	Yes
2.9	Which are the key receptors for the local authorities?	C	<p>Key receptors include:</p> <ul style="list-style-type: none"> All identified flood risk receptors Groundwater water bodies (Principal Chalk Aquifer) Groundwater abstractions Groundwater Dependent Terrestrial Ecosystems (GWDTEs) Surface water features and WFD waterbodies (note that Main Rivers are principally considered by the Environment Agency), however impacts through overland flow to the wider surface water catchments are relevant to the LPA's Existing water infrastructure (clean and wastewater) (note that existing infrastructure is reported to be operated by Veolia Water, Thames Water, Affinity Water; drainage serving the airport access road and works associated with off-site highway interventions may affect local highway authority drainage infrastructure) <p>As discussed above, it is unclear if private and licensed surface water abstractions have been considered in the</p>	<p>Noted. The key receptors identified are all either included within the assessment or a description is provided to clarify why they were not considered for further assessment.</p> <p>Abstractions have been discussed in consultation with Affinity Water and potential impacts are included in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Potential GWDTEs (there are no designated GWDTEs within the study area) are identified and considered for assessment in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Luton Hoo Lakes are acknowledged as a potential receptor impacted by wastewater discharge and are included in Chapter 20 Water</p>	Yes

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			<p>assessment. It is also unclear if consideration has been given to the Luton Hoo Lakes that, given their differing hydrological characteristics, may be subject to differing effect than the River Lee.</p> <p>Groundwater Dependent Terrestrial Ecosystems (GWDTEs) have not been discussed.</p>	<p>Resources and Flood Risk of the ES [TR020001/APP/5.01]. It is noted that monitoring has been undertaken here (by the EA), although preliminary results suggest that Biological Oxygen Demand (BOD) is not negatively affected in this location and there is no evidence provided to suggest that Luton Hoo Lakes will be subject to different impacts than the River Lee.</p> <p>No licensed (or unlicensed) surface water abstractions have been identified within the study area.</p>	
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	C	<p>Embedded mitigations: The methods used for monitoring of groundwater levels has not been clearly explained; if these are from discrete manual dips then groundwater levels may be in excess of these levels (this should be defined in the assumptions and limitations). Would also recommend a seasonal mitigation i.e., mineral extraction works are to take place outside a winter period to avoid elevated groundwater conditions.</p> <p>A Piling Risk Assessment, Remediation Options Appraisal (ROA) and remediation strategy, Detailed Quantitative Risk Assessment (DQRA) and introduction of a capping layer over the landfill (to prevent leachate generation) have been included as groundwater mitigations. The DQRA will be completed for the ES. Due to the sensitive groundwater area the statutory</p>	<p>Embedded mitigations: Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] has been updated to explain monitoring methodologies.</p> <p>Seasonal mitigation is not included because the ES includes the following assumption: <i>It is assumed that all excavation works would be undertaken above the groundwater table. The design of any subterranean structures has been informed by the site specific groundwater monitoring across site and historic water monitoring.</i></p>	Yes

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			<p>bodies may request a Preliminary Piling Risk Assessment be completed to support the ES, the requirement for this assessment should be identified through consultation with statutory bodies. In the WFD assessment, all effects were considered to be of low adverse impact, low beneficial impact or medium beneficial impact. The potential for the proposed mitigation to have a medium beneficial impact on the Upper Lee Chalk ground water body is questionable. No assessment has been undertaken on the ecology and therefore potential enhancement measures have not been included. A further assessment should therefore be undertaken to ascertain whether sufficient mitigation has been provided or cross referenced to where this is included in the main report.</p> <p><u>Construction - Code of Construction Practice (CoCP):</u> Key components of the CoCP relevant to surface and groundwater regime are supported in principle and are expected to be developed as part of the ES and Flood Risk Assessment as informed through consultation with statutory bodies.</p>	
			<p>The previously noted medium beneficial impact on the Upper Lee Chalk groundwater body has been revised following further review to ‘very low adverse’ as outlined in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p> <p>The assessment approach undertaken for the ES and appendices has been agreed with the EA and LLFAs. A preliminary piling risk assessment has not been requested by the EA for the ES.</p> <p>An assessment of the impacts of the Proposed Development on ecology is provided in Chapter 8 Biodiversity of the ES [TR020001/APP/5.01]. WFD ecological quality elements have been considered in the assessment undertaken in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02], which has not identified the requirement for additional mitigation.</p> <p><u>Construction - Code of Construction Practice (CoCP):</u> A temporary drainage strategy has not been prepared as part of the Drainage Design Statement. However, the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] specifies the requirement for the</p>	

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			<p>The proposal for a site-specific flood risk management plan is supported, it is expected that a temporary Drainage Strategy would form part of the Drainage Strategy proposed to be submitted as part of the ES to ensure that the assessment demonstrates that there is no temporary adverse effect to the flood risk receptors.</p> <p>Table 20.5 summarises that the response to the scoping report requested that the ES should also consider the potential impact of damage to the existing distribution network of Affinity Water and the private network at the airport. The need to identify and protect existing networks is not discussed as part of the CoCP.</p> <p><u>Construction:</u> We support the proposal for a Construction Stage Surface Water Management Strategy (CSWMS), and would expect the principles to be discussed and agreed in principle with the LLFA and EA as part of the ES, and to form part of the Drainage Strategy. Appropriate drainage calculations/ modelling to support the Drainage Strategy (construction and operation) including consideration of exceedance events in accordance with ANPS paragraph 5.162 should be included as appropriate and agreed within the LLFA's. The CoCP includes for groundwater quality and groundwater level monitoring during construction – the type and duration of monitoring, and contamination release response mitigation, will need to be agreed with the statutory bodies.</p> <p><u>Operation - Drainage Strategy:</u> General approach is supported in principle, subject to consideration of the below:</p>	<p>contractor to produce a Construction Surface Water Management Strategy as part of their Environmental Management System to manage impacts on surface water resources and flood risk during construction.</p> <p>The CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] has been updated to reference measures to identify and protect the existing Affinity Water network.</p> <p><u>Construction:</u> The principles have been discussed with the LLFAs and EA. The specific requirements for groundwater quality and level monitoring during construction will be agreed with the statutory bodies following submission of the application for development consent. The drainage strategies for both construction and operation (including calculations where appropriate), will be developed at detailed design stage.</p> <p><u>Operation - Drainage Strategy:</u> Surface water within the Order Limits, is designed to be treated and attenuated onsite, thereby ensuring</p>	

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			<p>In accordance with ANPS paragraph 5.162 “surface water management should be able to cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts”. Particular attention should be made to the potential linkages to the high-risk extreme surface water flow paths to ensure flood risk is not increased offsite and design exceedance does not result in adverse effect off-site. The applicant should consider design in relation to flood risk to a higher return period, which should be explored through sensitivity testing with the FRA as part of the ES.</p> <p>Design of a 1 in 100-year storm plus 40% allowance for climate change on surface water drainage design is supported however to ensure the proposed development remains resilient in the future (with continued uncertainties of climate change effects on rainfall intensity) it is recommended that consideration, through design or exceedance sensitivity testing. is undertaken in regard to more severe effects of climate change as informed by and agreed with the EA and LLFA’s to take into account the expected implementation/ changes from UKCP18 and ANPS paragraph 5.162. Appropriate drainage calculations to support the Drainage Strategy (construction and operation) should be included as appropriate and agreed within the LLFA’s.</p> <p>It is recommended that surface water treatment, which is proposed to form part of the Drainage Strategy within the ES, is developed in accordance with best practice including: CIRIA Report C753 ‘The SuDS Manual’ and gov.uk/ Environment Agency guidance including but not limited to: Pollution</p>	<p>no increase in current offsite discharges.</p> <p>The drainage strategies for both construction and operation (including calculations where appropriate), will be developed at detailed design stage.</p> <p>The 1 in 100-year storm plus 40% allowance for climate change utilised in the drainage design has been agreed with the EA and LLFAs, in line with current guidance and projections (UKCP18). As such consideration of a drainage design to a higher return period or more significant climate change impacts has not been undertaken at this time.</p> <p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] has been developed in line with best practice approaches to drainage (e.g., CIRIA guidance) and employs Sustainable Drainage System (SuDS) approaches where appropriate considering bird strike risk.</p> <p>The Drainage Design Statement in Appendix 20.4 and Water Cycle Strategy in Appendix 20.5 of the ES [TR020001/APP/5.02], identify measures to maximise water reuse and minimise water consumption associated with the Proposed</p>	

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			<p>prevention for businesses (2016), and Discharges to surface water and groundwater: environmental permits (2016). Consideration for isolating surface water drainage components at low risk of surface water pollution should be sought to limit the requirement for water treatment to maximise the quality of discharge of 'clean' direct rainfall.</p> <p>Where practicable foul and surface water should be kept independent and if combined discharge is proposed this should be suitably justified. It is recommended that the applicant discuss the proposed approach for all elements of the drainage strategy with all relevant statutory bodies.</p> <p>Where practicable consideration for removing and exiting, if any, trade effluent or foul discharges to surface water sewers should be made. The proposed Drainage Strategy should make specific consideration of existing surface water discharges and the impacts of snow melt in relation to the potential impacts on flood risk, surface water and groundwater receptors in terms of water quality, quantity, value and flood risk.</p> <p>Use of greywater reuse and rainwater harvesting is supported in line with Luton Local Plan Policy LLP36, furthermore in support of Luton Local Plan Policy LLP6 Part F opportunities should be explored to incorporate SuDS, in balance with the risk of bird strikes – SuDS (for example: blue roofs/permeable paving) should be considered, where practicable, throughout the proposed development to maximise attenuation of surface water as close to the source as practicable; thus, minimising the risk of 'clean' direct rainfall becoming contaminated from the wider</p>	<p>Development during construction and operation to minimise impacts on the Affinity Water network. This includes rainwater harvesting and water reuse measures.</p> <p>Clean direct rainfall from roof surface areas shall be isolated and harvested at source where proposed.</p> <p>Proposed foul and surface water drainage networks are independent.</p> <p>Stakeholder engagement has been carried out as part of the 2022 statutory consultation to inform parties involved of the proposed drainage strategy.</p> <p>There is no known foul discharge to the current surface water network.</p> <p>SuDS have been explored in the development of the Proposed Development and have been adopted where appropriate. For example, including proposals for a permeable paving car park north-west of the proposed WTP, with attenuation storage to discharge via infiltration.</p>	

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			proposed development surface water drainage network where higher pollutant risks are likely to be present.		
3.2	Are the mitigation measures included for significant adverse effects appropriate?	C	<p><u>Construction - Groundwater Quality:</u> Existing landfill understood to have limited leaching, therefore benefit not expected to be as much as presented within the PEIR. Worst-cast therefore presented. Given that impacts to abstractions, SPZs, GWDTEs, groundwater-connected surface water features are not considered in the assessment, it's likely that the mitigation measures section is also missing key mitigations as a result. For example, there is no mention of turbidity and other potential construction impacts (and subsequent mitigations).</p> <p><u>Construction - Surface Water quality and quantity:</u> Paragraph 20.9.6 to 20.9.8: Principles supported; however, ES should provide robust justification of how the measures proposed as part of the CSWMS will ensure a 'very low' magnitude of impact on the receptors</p>	<p><u>Construction – Groundwater Quality</u> The assessment of beneficial impacts associated with landfill remediation has been reviewed and updated in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. Abstractions, SPZs and potential GWDTEs have been considered in the assessment of impacts in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. The potential construction impacts (e.g., pollution incidents, turbidity etc) have been noted and are to be mitigated through measures identified in the CoCP (Appendix 4.2 of the ES [TR020001/APP/5.01], CSWMS (to be prepared by contractor after the DCO is granted) and through best practice pollution prevention measures.</p> <p><u>Construction – Surface Water Quality and quantity</u> The CSWMS will be prepared by the contractor after the DCO is granted and will be completed in line with</p>	Yes

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			<p>and must be in line with Environmental Permitting requirements. In the WFD assessment a medium beneficial assessment has been concluded for the Upper Lee Chalk groundwater body, which included capping of the landfill as beneficial. If the statement above applies with reference to the landfill, then it may be reasonable to anticipate a lower assessment on this waterbody, due to the limited benefits.</p> <p>Flood Risk: Paragraph 20.9.9: As part of the CSWMS outline calculations should be provided to demonstrate appropriate space allocation has been provided to attenuate surface water in accordance with LLFA surface water drainage expectations. Impacts to the actual road infrastructure should also be considered and mitigated as part of the CSWMS. Impacts associated to groundwater flow and emergence should be considered associated to the proposed earthworks.</p>	<p>Environmental Permitting requirements. Justification for the conclusions of the assessment are provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The assessment of beneficial impacts associated with landfill remediation has been reviewed and conservatively overall impacts to water body updated to 'very low adverse' in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and updated accordingly in WFD Compliance Assessment in Appendix 20.2 of Volume of the ES [TR020001/APP/5.02].</p> <p>Flood risk The CSWMS will be prepared by contractor following approval of the DCO.</p> <p>The Flood Risk Assessment [TR020001/APP/5.07] has included assessment of the potential impacts of the Off-site Highways Interventions on flood risk.</p> <p>The assessment provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] has considered potential impacts on groundwater flow.</p>	

		<p><u>Operation - Groundwater quality:</u> It is recognised that via the proposed drainage strategy the applicant is proposing to provide betterment from the existing surface water runoff from the ‘Main Application Site’, consideration for the control of existing groundwater discharges should be made as part of the assessment.</p> <p>Limited benefit associated with surface water runoff over landfill as minimal leachates currently identified Justification is required for the minor adverse (not significant) residual effects of discharging increased volumes of effluent to the groundwater, and of localised groundwater flooding.</p> <p><u>Operation - Surface Water quality and quantity:</u> Paragraph 20.9.16: the potential increase in volume and risk of pollutants is a key consideration due to the ‘importance value’ (sensitivity) of the surface water and groundwater receptors. It is recognised that consultation with statutory bodies is proposed throughout to inform the ES, which we would strongly recommend. Paragraph 20.9.17: a full HEWRAT assessment has not yet been undertaken and it is assumed this will be completed to inform the ES and surface water drainage design, including informing treatment requirements. That said, HEWRAT is very coarse, and it is recommend that a practical approach is also taken that reviews opportunities for treatment and betterment of surface water runoff quality and quantity. We recommend that the Simple Index Approach (as set out in The SUDS Manual) is used to inform the assessment of impacts and mitigation for surface water</p>	<p><u>Operation – Groundwater Quality</u> The assessment of beneficial impacts associated with landfill remediation has been reviewed and the overall impact on water body updated in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02]. Existing discharges have been considered in the assessment of impacts.</p> <p>The risk of pollutants entering the aquifer is reduced by the processes in the WTP, treated to the standards suitable to be discharged into the ground.</p> <p><u>Operation – Surface water quality and quantity</u> Consultation has been undertaken with the EA and LLFAs throughout the progression of the Proposed Development. A HEWRAT (Highways England Water Risk Assessment Tool) screening has been undertaken for all Off-site Highways Interventions and the Airport Access Road. Where identified by the screening as required, an assessment of potential impacts on water quality has been undertaken using the HEWRAT tool. No significant impacts have been identified if appropriate mitigation is</p>	
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			<p>runoff from other non-highway areas of the Proposed Development.</p> <p>No descriptive assessment for the assessment of impacts on water supply network and water resources is provided in Section 20.9. We recommend this is included and should consider clean water demand requirements (terminal operations) from all aspects of the proposed development (existing and proposed) including any likely future increases throughout the lifetime of the proposed development.</p> <p><u>Operation – Flood risk:</u> Consideration of impacts on each individually identified flood risk receptor and impacts to the receptor should be made, for current day scenario and future scenario taking into consideration the impacts of climate change. Consideration for the use of UKCP18 should be made as agreed with relevant statutory bodies alongside</p>	<p>implemented in the detailed design. The drainage design for the Off-site Highway Interventions is to include LLFA drainage and contemporary highway design requirements, where relevant, to provide betterment of the existing surface water runoff quality and quantity.</p> <p>The Simple Index Approach has been discussed with the LLFAs and it has been agreed that the HEWRAT tool is sufficient.</p> <p>An assessment of impacts on the water supply network and water resources is provided in Section 20.9 of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and within the Water Cycle Strategy in Appendix 20.5 of the ES [TR020001/APP/5.02]. A descriptive assessment of the impacts on water supply network and water resources, including clean water demand requirements, where information is available at this time.</p> <p><u>Operation – Flood Risk</u> UKCP18 updated 2021 Climate Change projections have been applied to Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] where</p>	

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			<p>consideration of exceedance in accordance with ANPS paragraph 5.162 and design for more extreme return periods due to the strategic nature of the proposed development – see comments in 3.1.</p> <p>General: ES assessment should consider the different receptors and mitigation proposed individually to limit the potential impacts associated to each receptor in the context of water supply and wastewater infrastructure, flood risk, surface water and groundwater in terms of water quality and quantity as appropriate. Secondary effects to receptors from potential impacts on quality and quantity from wastewater receptors in hydraulic connectivity should also be considered.</p>	<p>appropriate (including EA flood maps).</p> <p>The Flood Risk Assessment [TR020001/APP/5.07] provides an assessment of the impacts of the Proposed Development (both current day and future scenarios) on flood risk receptors considering the impacts of climate change. The Flood Risk Assessment has been undertaken in agreement with the Environment Agency and LLFAs, who have been in agreement with the drainage design utilising a 1 in 100-year storm plus 40% allowance for climate change.</p> <p>General Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] has been updated to consider individual receptors where appropriate, or justification added as to why specific receptors have not been considered for further assessment. Receptors in hydraulic connectivity with the site are considered.</p>

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	Aspect being reviewed	WSP code			Comments
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	B	<p>Further detail should be provided to demonstrate the level of detail to be provided as part of the ES. Where elements will be deferred to post-DCO, the applicant should demonstrate the proposed principles to be taken forward during the detailed design prior to the works to demonstrate the design intent is practicable. Consultation should be undertaken with relevant statutory bodies in order to inform what elements should be provided as part of the ES to demonstrate the practicability of the proposals and what can be provided post ES.</p> <p>Paragraph 11.9.2: it would be preferable to undertake further ground investigation (GI) in the proposed off-site car parks prior to the DCO, rather than after it, so that the ES assessment can take this information into account.</p>	<p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] documents the key principles to be taken forward during the detailed design, prior to the works, to demonstrate the design intent is practicable.</p> <p>Consultation with the EA, LLFAs and relevant water companies has been undertaken throughout preparation of the ES. Consultation has been undertaken with the EA on the groundwater discharges which will need sufficient detailed design and understanding of the effluent characteristics to obtain relevant environmental permits. This detailed design and associated baseline monitoring, will be undertaken post submission of the application for development consent.</p> <p>Consultation with the local LLFAs has been undertaken in regard to the proposed Off-site Highway Interventions, to be designed and provided for the approval of the relevant local planning authority following approval of the DCO.</p> <p>Further ground investigation will be undertaken by the lead contractor following approval of the application for development consent as the design is developed, to ensure the most appropriate site investigation is</p>	Yes

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			<p>undertaken relevant to the detailed design. As limited works are proposed at the Off-site Car Parks, it is considered that the ES is sufficiently robust without further ground investigation at this stage.</p> <p>The EA have confirmed during consultations to date that bespoke environmental permits will be required for the proposed new groundwater discharges, which is discussed further in the Hydrogeological Risk Assessment (Appendix 20.6 of the ES [TR020001/APP/5.02]). Existing permits are also likely to require revisions.</p> <p>There is also a requirement in Schedule 2 of the Draft DCO [TR020001/APP/2.01] for written details of the surface and foul water drainage designs including means of pollution control and monitoring, to be submitted to the relevant planning authority for approval prior to the Proposed Development commencing. The details must reflect the principles set out in the Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]).</p> <p>Mitigation within Section 20.8 of Chapter 20 Water Resources and Flood Risk of the ES</p>	
			<p>Note: There is no mention in either Appendix 20.3 or Chapter 20 of an Environment Agency groundwater discharge consent being in place (or the need for it having been considered). However, this is likely to be required for the groundwater discharges which are proposed. It's stated in Appendix 20.3, paragraph 6.2.8 that the bottom of the tank will be at least 1 m above the April 2001 maximum groundwater level (this is something the EA would require).</p> <p>Responsibility for delivering the mitigation detailed in Section 20.8 isn't attributed.</p>	

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3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	Groundwater quality and level monitoring indicated, and these are to be confirmed as appropriate with the relevant stakeholders. The Drainage Strategy for the Main Application site also includes for real-time monitoring of surface water contaminants. GI monitoring, including ground gas monitoring, is also recommended for the off-site car parks.	Noted. Section 20.13 of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] summarises the monitoring requirements and the relevant documents where these are discussed in further detail. Ground investigation is not anticipated at the Off-site Car Parks where limited construction works are proposed.	No
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	ES assessment should consider receptors and associated mitigations individually where practicable to clarify what measures are proposed to manage specific potential receptor impacts. Clear sections for water supply and wastewater infrastructure, flood risk, surface water and groundwater receptors. Secondary effects to surface water receptors from potential impacts on quality and quantity from conveyance through other receptors in hydraulic connectivity should be made. Clear division for impacts and mitigation for water quality and quantity elements should be provided.	The assessment undertaken in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] considers individual mitigation measures for specific receptors where required. This includes secondary effects to receptors through conveyance through other receptors.	Yes

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			<p>EA flagged issues with current soakaway discharges introducing perfluorooctanesulfonic acid (PFOS), hydrocarbons and other hazardous substances to ground. If the current drainage to these soakaways could be diverted through the new treatment system this would provide betterment to the groundwater environment.</p> <p>Luton LLFA flagged potential issues associated from discharges through drainage infrastructure to the River Lea/ Luton Hoo Lakes. If current drainage could be diverted through the new treatment system this would provide betterment to the surface water receptors. Luton LLFA flagged issues of surface water flooding issues associated to the Airport access roads/ underpasses. If drainage infrastructure can be improved to reduce flood risk this would provide betterment to the flood risk receptors.</p> <p>In addition to the above, changes to existing highways and onsite drainage strategies can present wider opportunity to improve existing treatment and monitoring systems and provide betterment to receiving water quality. There may also be opportunities to redirect surface water discharge from the public foul/combined water sewerage network. It is unclear if such opportunities have been explored.</p>	<p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] outlines the live monitoring system that will be in place for contaminants potentially present in runoff from across the Proposed Development, to enable diversion through the new treatment system when implemented. Where exceedances are noted, this will divert drainage to the new treatment system when implemented. No PFOS is utilised on the site.</p> <p>The assessment provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] addresses potential impacts on River Lee/Luton Hoo Lakes which will be mitigated by the implementation of the drainage design principles outlined in the Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02]. The proposed drainage design will provide for better resilience to flood events than the existing system - further information can be found in Section 8 of the Drainage Design Statement.</p> <p>The surface water drainage system principles outlined within the Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02], provide for betterment over the existing airport</p>	

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			<p>Similarly, we understand that the existing site passes through an on-site WTP, however it is unclear if there are betterments that could be achieved as part of the Proposed Development that would improve the quality of the receiving water environment. As mentioned above, recommendations on the likely requirements for groundwater discharge consents should be included/indicated.</p> <p>Currently, there is no reference to ecological WFD elements and therefore it is difficult to propose further simple mitigation or enhancement measures; however, these should be considered where there is potential to improve conditions, especially at offsite work locations.</p>	

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				<p>commencing. The details must reflect the principles set out in the Drainage Design Statement (Appendix 20.4) of the ES [TR020001/APP/5.02].</p> <p>Contemporary drainage design requirements and systems are likely to be a betterment over the existing drainage arrangements.</p>	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	C	<p>Yes. The DMRB assessment methodology is often the most appropriate for developments such as this. However, for assessing groundwater risks its use should be agreed with the Environment Agency. For WFD methodology the assessment methods are provided; however, in Section 4.1 (i.e., the overview flow diagram) it refers to those only coloured as red risk (i.e., high adverse) as requiring to be taken forward to the detailed assessment. However, at the end of the overall assessment, the report suggests the Upper Lee Chalk (due to main application site works) with an impact assessed as a medium beneficial impact (blue) should be taken through. Therefore, the requirement to take this through to detailed assessment needs to be reviewed.</p>	<p>Assessment methodologies, including the use of DMRB, have been agreed in consultation with the EA.</p> <p>Section 4.1 of the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has been updated for clarity. The assessment of beneficial impacts associated with landfill remediation has been reviewed and updated in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and updated accordingly in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p>	Yes
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving	B	<p>Chapter 20 now uses LA 113 as the assessment methodology for assessing risks. The assessment proposes to apply HEWRAT for the assessment of impacts of road traffic on water quality. This is supported for major roads, but we recommend that the Simple Index Approach (as set out in The SUDS</p>	<p>A HEWRAT screening has been undertaken for all Off-site Highway Interventions and the Airport Access Road. Where identified by the screening as required, an assessment of potential impacts on</p>	No

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	environment clearly defined?		<p>Manual) is used to inform the assessment of impacts and mitigation for surface water runoff from other non-highway areas of the Proposed Development. The WFD has included relevant tables, although neutral/negligible is not included in this WFD assessment (see Table 4.1).</p>	<p>water quality has been undertaken using the HEWRAT tool. No significant impacts have been identified.</p> <p>The Simple Index Approach has been discussed with the LLFAs and it has been agreed that the HEWRAT tool is sufficient.</p> <p>The WFD assessment methodology (including terminology) has been agreed with the EA in a stakeholder consultation meeting. Note that a minor adverse/beneficial effect is considered as no measurable impact.</p>	
4.3	Are the methods for evaluating significance clearly defined/?	B	<p>Yes. Chapter 20 now uses LA 113 as the assessment methodology for assessing risks. The DMRB assessment methodology is often the most appropriate for developments such as this. However, for assessing groundwater risks its use should be agreed with the Environment Agency.</p> <p>The WFD report has detailed the methodology to be followed for taking through waterbodies for detailed assessment.</p>	<p>Assessment methodologies, including the use of DMRB, have been agreed in consultation with the EA.</p>	Yes
4.4	Do the assessment methods used follow relevant guidance?	B	<p>Yes. Chapter 20 now uses LA 113 as the assessment methodology for assessing risks.</p>	<p>Assessment methodologies, including the use of DMRB, have been agreed in consultation with the EA.</p>	No
4.5	Have potential effects been considered both during construction and operation?	B/C	<p>Section 20.9 does not clearly consider all receptors identified within Section 20.7, also noting our previous comment ref 2.9.</p> <p>In Chapter 20 there is no reference of impacts to abstractions, SPZs, groundwater fed surface water bodies or GWDTEs (despite all of these being identified</p>	<p>Please refer to the response to ref 2.9.</p> <p>Abstractions and SPZs have been discussed with Affinity Water and potential impacts are included in Chapter 20 Water Resources and</p>	Yes

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			<p>as receptors in Table 20.11). Additionally, there is not much mention of potential groundwater quality impacts to the aquifer from construction activities, i.e., excavations which can result in a release of turbidity. In fact, there is no mention of turbidity spikes in either Chapter 20 or Appendix 20.3, which should be considered, especially as it is a chalk Principal aquifer (with predominantly fracture flow as the main flow type). Groundwater quantity impacts are considered in Appendix 20.3. This includes a mounding assessment which considers maximum groundwater levels (see section 6.2.15 onwards). Aquifer losses (in terms of groundwater reduction) were ruled out due to the excavations being above the water table (including maximum expected levels). However, Chapter 20 does not include much detail of quantitative impacts compared with Appendix 20.3 (some added detail would be preferred, e.g., the mounding assessment results, ruling out and quantitative losses). Impacts to groundwater users (licensed and unlicensed abstractions) have not been included. Impacts to the River Lee are assessed only in regard to effects as a result of offsite highway interventions. However, an assessment of risk associated with discharge of pollutants from the main works site via existing outfalls to the River Lee would also be expected.</p> <p>Impacts to the River Mimram are assessed only in regard to indirect effects as a result of changes to groundwater quality. However, an assessment of risk associated with overland surface water flow would also be expected.</p>	<p>Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Groundwater-surface water interactions (including groundwater fed streams) and potential GWDTEs are identified and included in assessment undertaken in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The potential construction impacts (e.g. pollution incidents, turbidity etc) have been noted in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and are to be mitigated through measures identified in the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.01] together with the CSWMS (to be prepared by the lead contractor should the DCO be granted).</p> <p>Mounding impacts and other quantitative impacts are discussed in Section 20.9 of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>Impacts to the River Lee and River Mimram (including their respective catchments) have been assessed in line with the assessment methodology outlined in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. Surface water flood risk is considered</p>	

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			<p>The assessment does also not appear to have given consideration to risks associated with changes to catchment characterises and overland flow routes within the catchment of the River Mimram.</p> <p>Table 20.5 summarises that the response to the scoping report requested that the ES should also consider the potential impact of damage to the existing distribution network of Affinity Water and the private network at the airport. The response to this comment states that the risk has been considered in the Preliminary FRA, but we recommend the risk is also considered in terms of impacts to water quality and water supply. Neither risk is listed in paragraph 20.5.17 that summarises potential construction risks.</p> <p>Flood risk during operation not discussed in Section 20.9, although it is summarised in Table 20.15. In the WFD report, construction and operational impacts are identified, the assessment though, has not assessed potential effects on WFD ecological receptors or cross referenced adequately. The assessment has also not given consideration to potential changes in catchment hydrology that could affect watercourse hydromorphology and geomorphology. Whilst it is understood that there is likely to be little change in catchment hydrology compared to the baseline scenario, an increase in piped discharge (for example) could</p>	<p>in the Flood Risk Assessment [TR020001/APP/5.07].</p> <p>Consultation with Affinity Water and Veolia has been undertaken throughout the preparation of the ES and Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]).</p> <p>Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] provides an assessment of the potential impacts of the Proposed Development on infrastructure (such as damage to the existing distribution network and private network at the airport). The Water Cycle Strategy in Appendix 20.5 of the ES [TR020001/APP/5.02] also considers the potential impacts of the Proposed Development on the Affinity Water water supply.</p> <p>Reference is provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] to the assessment of flood risk undertaken in the Flood Risk Assessment [TR020001/APP/5.07] which considers both construction and operational flood risk.</p> <p>The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has considered all potential impacts of</p>	

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			cause localised scour or changes to sediment regime and flow. It is also assumed that there are no proposed changes to existing outfall structures and no new outfall structures, but any changes would require assessment.	<p>the Proposed Development on WFD waterbodies, including ecological receptors. No changes in hydrology have been identified that would affect watercourse hydromorphology and geomorphology. Additional cross-referencing has been added.</p> <p>Assuming the outfall structures refer to soakaways, the existing northern and two central soakaways remain unchanged. There will be a proposed outfall structure (Tank 2 infiltration basin) for the collection of the proposed discharge network.</p>	
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	C	<p>Section 20.9 and Table 20.15 assigns magnitude, but probability, duration and reversibility are not. Generally, in WFD terms, long term and permanent usually refers to an effect lasting longer than the length of a RBMP cycle (6 years) and this is considered high risk, medium to long-term (4 to 6 years), low risk (localised and short term (3 years or less) and neutral / negligible as no risk, whereas in this WFD report anything lasting longer than 3 years is considered permanent. However, if this has been agreed with the Environment Agency for WFD then this is acceptable. Any professional judgement to determine significance should be justified.</p>	<p>The WFD assessment methodology has been agreed with the EA.</p> <p>Any professional judgement to determine significance, where utilised, has been justified.</p>	Yes
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	C	<p>Table 20.15 identifies the outcome of the preliminary assessment. All adverse effects are identified as low or very low, with minor adverse (not significant) residual effects for each.</p> <p>Only beneficial effects are assigned a moderate magnitude, with associated moderate or minor beneficial (and significant) residual risks. Further justification for this is required, including why the proposed discharge of</p>	<p>Additional justification for effect conclusions (including why the proposed discharge is considered minor adverse) has been provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. Assessment of the potential impacts of the</p>	Yes

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			<p>additional volumes of effluent to soakaways won't result in an adverse effect on groundwater.</p> <p>In the WFD assessment these are described; however, as to whether the mitigation proposed is sufficient to be of a moderate beneficial impact on the Upper Lee Chalk when the WFD waterbody experiences significant other pressures (see 6.3.8) is questionable. As highlighted previously the WFD assessment has not included an assessment on ecological WFD elements and therefore, the assessment is not fully justified.</p>	<p>Proposed Development on the groundwater receptors has been informed by the Hydrogeological Risk Assessment included as Appendix 20.4 of the ES [TR020001/APP/5.02].</p> <p>Assessment of beneficial impacts associated with landfill remediation has been reviewed and updated in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and updated accordingly in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p> <p>The previously noted medium beneficial impact on the Upper Lee Chalk groundwater body has been revised following further review to 'very low adverse' as outlined in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p> <p>Ecological WFD elements have been included in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p>	
4.8	Are the residual significant effects clearly stated?	B	<p>Residual effects are presented in Table 20.15. However, further justification of these would be beneficial.</p> <p>In the WFD assessment, the actual terminology of residual significant effect is not referred to and it is usual for a WFD assessment to clearly present a pre- and post-mitigation assessment, often in a table. The</p>	<p>Additional justification for the residual effect conclusions has been provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The staged methodology for the WFD assessment was agreed with</p>	Yes

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			assessment has, however, included an overall assessment of significant effect for the waterbody, after mitigation which therefore could be considered a residual effect.	the EA. This methodology considers the overall assessment of significant effects on the waterbody, taking into account embedded mitigation. The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has been revised to note that the assessment has considered the impact after taking into consideration mitigation measures, and as such can be considered an assessment of residual effects.	
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	<p>Cumulative assessment is proposed to be undertaken as part of the ES, which is supported. It should be noted that this should consider cumulative impacts on all identified sensitive receptors and future scenarios where practicable.</p> <p>The WFD has not specifically included a cumulative assessment, with no reference as to whether any other developments are likely to take place, considering spatial and temporal scales. If this is to be undertaken at a future date, then a simple statement would suffice in this assessment.</p>	<p>Cumulative effects have been considered in Chapter 21 Cumulative Effects Assessment of the ES [TR020001/APP/5.01].</p> <p>Based on the initial cumulative impact screening conclusions, a more detailed assessment of the cumulative impacts on all identified sensitive receptors has not been undertaken.</p> <p>Cumulative assessment has been considered as part of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01], with a statement included in the WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02].</p>	Yes
4.10	Have uncertainties in the design, mitigation or	C	Limited demonstration of uncertainties. The applicant should recognise the scale of the proposed increase in surface water and discharge to groundwater generated at the top of the catchment and potential impacts to the	Assumptions, limitations, and uncertainties relevant to the assessment are described in	Yes

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	assessment been recognised?		<p>identified receptors (namely surface water and groundwater flood risk, and associated water quality impacts).</p> <p>The design of the treatment should be fully explored as part of the ES to demonstrate the practicability of the proposed approach of treatment and disposal in consultation with relevant statutory bodies. Groundwater level information on site as presented/described in Appendix 20.3 indicates that the groundwater level data comes from discrete manual dip measurements (as opposed to automatic borehole divers/loggers). Due to intervals between measurements, it is likely that maximum/minimum groundwater levels have not been established. If extraction takes place below water table, then groundwater dewatering will be required to support remediation of the landfill.</p>	<p>Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01]. This includes the assumption that no dewatering is required based on the onsite groundwater level data, together with data from the local EA groundwater model data and monitoring networks. The site specific groundwater data and EA data (due to site data not likely providing max/min groundwater levels) has been utilised to calculate likely maximum groundwater levels as outlined in the Hydrogeological Characterisation Report in Appendix 20.3 of the ES [TR020001/APP/5.02].</p> <p>The design of the water treatment plant outlined in the Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]) and preparation of the Hydrogeological Risk Assessment (Appendix 20.6 of the ES [TR020001/APP/5.02]) to ascertain the potential groundwater quality impacts has been developed in consultation with the EA.</p>	
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	<p>Yes. However, Table 20.5 summarises that the response to the scoping report requested that the ES should also consider the potential impact of damage to the existing distribution network of Affinity Water and the private network at the airport . This is not listed in paragraph 20.5.17 that summarises potential construction risks and is not discussed in Section 20.9 or Table 20.15.</p>	<p>Consultation with Affinity Water and Veolia has been undertaken throughout the preparation of the ES and Drainage Design Statement (Appendix 20.4 of the ES [TR020001/APP/5.02]).</p> <p>Chapter 20 Water Resources and Flood Risk of the ES</p>	Yes

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				<p>[TR020001/APP/5.01] provides an assessment of the potential impacts of the Proposed Development on infrastructure (existing distribution network of Affinity Water and the private network at the airport). The Water Cycle Strategy in Appendix 20.5 of the ES [TR020001/APP/5.02]) also considers the potential impacts of the Proposed Development on the Affinity Water water supply.</p>	
5	Conclusion/ Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	<p>Table 20.15 provides a summary of the preliminary assessment. However, as stated above, the assessments haven't included all of the identified receptors.</p> <p>In the WFD assessment, it is usual practice to state whether the development will have a significant adverse effect at the waterbody scale and whether there could be a possible deterioration in status which is currently missing from the assessment in the conclusion.</p>	<p>All relevant receptors are now included in the assessment in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The WFD Compliance Assessment (Appendix 20.2 of the ES [TR020001/APP/5.02]) has not identified any potential significant adverse effects on WFD waterbodies as a result of the Proposed Development.</p> <p>The assessment states that the Proposed Development will not have a significant adverse effect at the waterbody scale and no potential deterioration in status has been identified.</p>	Yes

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5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	B	Yes, in Table 20.15.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	The PEIR refers to the supporting appendices for a summary of identified impacts although assessment text would benefit from further refinement or direction to the appendix for further information. If all considered impacts are included in the assessment text, this would create a more transparent assessment. It would be useful if a summary of the findings of the appendices was provided in the ES chapter to clearly summarise receptor, risk, mitigation and residual impact.	Appropriate references to ES appendices are provided in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] . The summary table in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] outlines potential impacts on water resources receptors as a result of the Proposed Development considering assessments undertaken across all appendices.	Yes
6.2	Is the PEIR readable to the audience for which it is intended?	B	All identified receptors should be carried through into the assessment to ensure each receptor is appropriately assessed and classified. Additional figures or maps as part of the ES would be recommended to identify all surface water catchments, discharge locations and assessed risk of pollutants both during construction and operation. A map showing the former landfill in relation to proposed infiltration basin and permeable carparks and any other features including infiltration, would also be helpful. The readability of the PEIR could be improved. It appears to be rather disjointed and, because it doesn't	All identified receptors have been carried through to assessment. An additional figure displaying existing drainage catchments across the Main Application Site has been included in the ES as Figure 20.6 [TR020001/APP/5.03] . A figure showing the former landfill in relation to the proposed infiltration basin is included in the Hydrogeological Risk Assessment	Yes

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			clearly reference back to each receptor and risk and continue them through the assessment, it is not as clear as it could be.	<p>in Appendix 20.6 of the ES [TR020001/APP/5.02].</p> <p>Discharge of surface water runoff will be to ground via soakaway and appropriate plans have been provided in the Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] to illustrate the location of soakaway features and existing features.</p> <p>The two new soakaways are located to the east of the airport within the Mimram (Codicote Bottom to Lee) catchment (see Figure 20.4) [TR020001/APP/5.03].</p> <p>Potential sources of contamination during construction are shown on Figure 17.2 of the ES [TR020001/APP/5.03]. The risk of pollutants during operation has been assessed in the Hydrogeological Risk Assessment in Appendix 20.6 of the ES [TR020001/APP/5.02].</p> <p>Comments on readability have been considered in the preparation of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p>	
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B	Yes	Noted.	No

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	Aspect being reviewed	WSP code			Comments
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	B	Yes	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	Additional figures of maps as part of the ES would be recommended to identify all assessed risks of pollutants both during construction and operation in relation to surface water catchments and discharge locations.	<p>Discharge of surface water runoff and treated effluent will be to ground via soakaway and appropriate plans have been provided in the Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] to illustrate the location of soakaway features and existing features.</p> <p>The two new soakaways are located to the east of the existing site within the Mimram (Codicote Bottom to Lee) catchment (see Figure 20.4 [TR020001/APP/5.02]).</p> <p>Potential sources of contamination during construction are shown on Figure 17.2 of the ES [TR020001/APP/5.03]. The risk of pollutants during operation has been assessed in Hydrogeological Risk Assessment in Appendix 20.6 of the ES [TR020001/APP/5.02].</p>	
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	B	The groundwater appendix appears comprehensive but there is a lack of cross referencing in the PEIR to navigate the reader to the relevant works and piece the full puzzle together. Suggest more cross references and explanatory text included in the PEIR to lead to reader. There are some references to Appendix 20.3 but more (particularly with regards to the groundwater quantity/mounding assessment) would be helpful.	<p>Cross-referencing has been updated in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] in line with the comment.</p> <p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] has been</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>The Drainage Design Statement (Appendix 20.4) identifies several drainage design options but no confirmed strategy of what is proposed at this stage. In summary the following will need to be addressed as part of the detailed strategy developed to inform the ES:</p> <ul style="list-style-type: none"> • Infiltration strategy acceptable in principle • Further detail of how the proposed rainwater harvesting will be implemented/ if it is possible will be required • Manholes are in accordance with DMRB/ HCD, but would also recommend that they are in accordance with aviation standards depending on location • Further information on how the bio membrane will treat runoff under a car park for permeable paving differently from a normal / non bio membrane will be required • Typo in paragraph 3.3.38 makes it difficult to understand what it is saying (double negative) • Drawings – surface water line types are not consistent with the key which makes it difficult to decipher linear drainage channels and pipes <p>Currently, the WFD is not comprehensive as it does not include an assessment against individual WFD elements (including ecological receptors). If this is presented elsewhere then a summary should be provided in the WFD report, and the detail can be cross referenced.</p>	<p>finalised and is described in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The Drainage Design Statement provides further information on the rainwater harvesting strategy and references to the inspection chambers (referred to in the comment as 'manholes') in accordance with aviation standards.</p> <p>The proposed paving solution shall utilise a permeable membrane for infiltration. The build-up of the permeable paving shall be in accordance with CIRIA 753. The level of treatment shall be via filtration processes recommended by the guideline.</p> <p>Clause 3.3.38 has been removed from the Drainage Design Statement as presented at the 2022 statutory consultation as de-icing pads are installed at present.</p> <p>The drawings within Appendix A and Appendix B of the Drainage Design Statement have been updated from those presented during the 2022 statutory consultation to show the correct surface water line types.</p> <p>The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has been completed in line with methodology</p>	

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
				agreed with the EA, and includes ecological WFD elements.	
Conclusion					
	Legislation, Policy and Guidance	C	<p>Assessment should also include: Environment Act 2021 The chapter lists only the relevant local plans and does not include reference to the policies relevant to/those that have informed the scope/methodology/mitigation. Assessment now includes LA 113 although for groundwater, the use of this assessment methodology needs to be confirmed and agreed with the EA.</p>	<p>Use of the LA113 assessment methodology has been agreed with the EA and LLFAs.</p> <p>All relevant local plans and policies relevant to the scope, methodologies and mitigation have been included in the policies and guidance section provided at Section 20.2 of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01], or referenced specifically in the relevant sections of the report.</p> <p>Reference to the Environment Act 2021 has been included in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p>	Yes
	Baseline Information	C	<p>Receptors identified should also consider: Groundwater-dependent terrestrial ecosystems Source Protection Zones Private and licensed surface water abstractions Critical drainage areas Water infrastructure (water supply and wastewater)</p> <p>Appendix containing detailed information is rarely referenced in the PEIR report, more cross referencing and dialog around this referencing needs to be added.</p>	<p>All receptors identified in comment are now included in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] and accompanying appendices [TR020001/APP/5.02] where appropriate.</p> <p>Additional cross-referencing between reports has been added.</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
	Mitigation, Enhancement and Monitoring	C	<p>The in-principal mitigations proposed, including; CSWMS, CoCP, Environmental Permitting, Drainage Strategy, Water Cycle Strategy, Piling Risk Assessment, Remediation Options Appraisal, Remediation Strategy and a Detailed Quantitative Risk Assessment (DQRA), groundwater quality monitoring during construction, groundwater level monitoring during construction and introduction of a capping layer over the landfill (to prevent leachate generation) are supported. The applicant should ensure appropriate engagement is undertaken with the LLFA and Environment Agency and other statutory bodies in undertaking the ES assessment to agree the principles of the above noted strategies, enhancements and monitoring.</p> <p>Applicant should recognise the ‘high’ ‘importance value’ (sensitivity) of the surface water and groundwater receptors and technical complexities in managing the scale of surface water generated by the proposed development in terms of quantity and flood risk, importance of managing the potential pollutants from the proposed development and consequence of any pollution from the proposed development. Identification of a practicable design options to be implemented will be essential for the proposed development and appropriate detail of principles for surface water/ groundwater water management/ pollution control and disposal will form a key part to the ES.</p>	<p>Engagement has been undertaken with relevant LLFAs and the EA throughout preparation of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] to ensure agreement on assessment approach and outcomes.</p> <p>The importance and complexity of the water environment in the study area is recognised and described in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02] outlines how the drainage strategy for the Proposed Development will manage surface water run-off across the Main Application Site appropriately.</p>	Yes
	Assessment of Significant Effects	C	<p>The DMRB assessment methodology is proposed. However, for assessing groundwater risks its use should be agreed with the Environment Agency. Assessment of significant effects should consider each identified receptor individually, as well as recommended additional receptors noted above.</p>	<p>The Hydrogeological Risk Assessment in Appendix 20.4 of the ES [TR020001/APP/5.02] has been prepared in consultation with the EA.</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>No reference of impacts to licensed and unlicensed abstractions, SPZs, groundwater fed surface water bodies or GWDTEs. Little mention of potential groundwater quality impacts to the aquifer from construction activities. Uncertainties remain as to whether groundwater quantity will be impacted during construction.</p> <p>The design of wastewater treatment should be fully explored as part of the ES to demonstrate the practicability of the proposed approach of treatment and disposal in consultation with relevant statutory bodies. Impacts to River Lee and River Mimran associated with discharge of pollutants via sewerage discharge and overland flow and changes to catchment characteristics expected. Assessment of risk to existing water infrastructure expected. WFD report has not assessed potential effects on WFD ecological receptors.</p>	<p>Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] includes an assessment of the potential impacts of the construction and operation of the Proposed Development on abstractions, SPZs, groundwater fed surface water bodies, GWDTEs and water infrastructure.</p> <p>Quality impacts during construction are noted in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] with detailed mitigations to be detailed in the CSWMS developed by the lead contractor. No impacts on groundwater quantity are envisioned during construction with no works occurring below the groundwater table, as noted in the assumptions set out in Chapter 20.</p> <p>The design of the water treatment plant is described in the Drainage Design Statement in Appendix 20.4 of the ES [TR020001/APP/5.02]. The EA has been consulted throughout the process.</p> <p>Operational discharge impacts are considered in the Hydrogeological Risk Assessment in Appendix 20.4 of the ES [TR020001/APP/5.02], whilst overland surface water flooding is considered in the Flood Risk Assessment</p>	

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
				<p>[TR020001/APP/5.07]. Risks to existing infrastructure are noted in Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01].</p> <p>The WFD Compliance Assessment in Appendix 20.2 of the ES [TR020001/APP/5.02] has been completed in line with methodology agreed with the EA and includes consideration of ecological receptors</p>	
	Conclusions	C	<p>Justification of residual effects needs to be provided for all sensitive receptors. The PEIR does not present assessment of all summary table assessments – this needs to be addressed. Missing receptors need to be agreed with relevant statutory bodies in line with the above comments.</p>	<p>Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] now includes assessment of all receptors identified in the baseline summary tables (or justification for omission) and justification of any residual effects.</p> <p>Engagement has been undertaken with relevant LLFAs and the EA throughout preparation of Chapter 20 Water Resources and Flood Risk of the ES [TR020001/APP/5.01] to ensure agreement on the assessment approach and outcomes.</p>	Yes
	Presentation (including Figures and Appendices)	B	<p>Additional figures as part of the ES would be recommended to identify all assessed risks of pollutants both during construction and operation in relation to surface water catchments and discharge locations.</p>	<p>Discharge of surface water runoff and treated effluent will be to ground via soakaways and appropriate plans have been provided in the Drainage Design Statement (Appendix 20.4) of the ES [TR020001/APP/5.02].</p> <p>Potential sources of contamination during construction are shown on Figure 17.2 of the ES</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				[TR020001/APP/5.03]. The risk of pollutants during operation has been assessed in the Hydrogeological Risk Assessment in Appendix 20.6 of the ES [TR020001/APP/5.02] .	

B9 Waste and resources review checklist and summary

Note: 'Ref.' is to table 2.19 of the WSP on behalf of host authorities response.

Table B9.1: Waste and Resources

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>In Section 19.2, it is recommended that reference is made to the Environment Impact Assessment Directive (2014/52/EU), unless it is referenced previously in the PEIR – it does not appear to be referenced in Section 19.2 as stated in Feedback Report Appendix B.</p> <p>The Environmental Permitting (England and Wales) Regulations 2016 have been revised following Brexit; it is recommended that this is updated and referenced in the chapter.</p> <p>The Waste (England and Wales) Regulations 2011 (as amended in 2014) is updated in the chapter and in the references section.</p> <p>Given the nature of the Scheme the author may consider referencing the following pieces of legislation:</p> <p>The Controlled Waste (England and Wales) Regulations 2012 (SI 2012/811) Clean Neighbourhoods and Environment Act 2005 The Control of Pollution Act 1974 The Waste Batteries and Accumulators Regulations 2009 (SI 2009/890) (as amended);</p>	<p>All legislation, policy, guidance and references relevant to the Proposed Development has been reviewed and included as appropriate in Section 19.2 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] and Appendix 19.1 Outline Site Waste Management Plan</p> <p>The responses to the scoping report on behalf of the Host Authorities (April 2019) has been included in Table 19.6 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code		
			<p>It is noted that the Control of Asbestos Regulations 2012 (SI 2012/632) and the Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (SI 2013/3113) (as amended) are now referred to in the Draft Outline Site Waste Management Plan. The author may consider referencing in the chapter also.</p> <p>It is recommended that the Resources and waste strategy for England policy document is referred to correctly as “<i>Our Waste, Our Resources: A Strategy for England 2018</i>”.</p> <p>It is noted that the IEMA Guide to Materials and Waste in EIA methodology has been selected as the most appropriate assessment guidance for this topic. This is agreed to be suitable for the assessment.</p> <p>It is noted that only the Planning Inspectorate has provided the scoping opinion comments. The responses to the scoping report on behalf of the Host Authorities (April 2019) appear to have been omitted. This needs to be justified or resolved.</p> <p>Guidance: It is noted that the WRAP Designing out Waste: A Design Team Guide for Civil Engineering and Designing Out Waste: A Design Team Guide for Buildings is now referenced in Table 19-4.</p> <p>The report authors should review and assess all new legislation once available in terms of the findings of the assessment for the ES.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			For example, new legislation is likely to be in place in 2023. Local waste plans and policies should also be considered in the ES.		
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	B	<p>The methodology section (19.5) has limited description of the data collection techniques; however, these are explained further in paragraphs 19.5.5 to 19.5.10 for both waste generation and resource consumption. As there is no specific section or paragraph(s) that identifies or describes the sources of data collection within the Chapter, it is recommended that this information should be summarised within the Methodology section, with clear definitive references of data sources provided.</p> <p>Paragraph 19.7.16/17 (note should be one paragraph – there is a break mid-sentence) and data in Table 19.26 show figures available to 2018. 2019 figures are available, and we would therefore recommend baseline data is updated in the PIER.</p> <p>Tables 19.23 – 19.25 for landfill capacity and waste management are noted to contain up to date information (2020). It is noted that restricted landfill capacity has not been included in the assessment (as stated in para 19.7.12) and therefore Hazardous Restricted waste information is not shown in Tables 19.23 and 19.24.</p>	<p>A description of data collection techniques and sources of data is summarised within the methodology section of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].</p> <p>All baseline data has been reviewed and updated as appropriate in Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].</p> <p>All baseline data has been reviewed and updated as appropriate in Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01]. Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] provides an explanation of why restricted</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				landfills are not included in the baseline.	
2.2	Do the data collection methods follow relevant guidance?	A	It is noted that the IEMA Guide to Materials and Waste in Environmental Impact Assessment methodology was selected and agreed with the host authorities as being the most appropriate methodology. The data has been collated in accordance with this guidance.	Noted.	No
2.3	Is the study area identified appropriately?	A	The study areas (development and expansive) have been defined in accordance with the IEMA guidance, are clearly set out in Table 19.6 and are considered suitable.	Noted.	No
2.4	Have all the resources/receptors been considered?	A	Paragraphs 19.5.2 – 19.5.3 set out the receptors assessed. The receptors have been identified and described in accordance with the IEMA guidance. It is noted that non-landfill waste infrastructure (for example, Materials Recovery Facilities (MRFs)) is no longer considered as a sensitive receptor: infrastructure that is used to process and recover arisings (and hence divert them from landfill) is a beneficiary of waste feedstock and could reduce adverse impacts. Such facilities are therefore an influencing factor in the reduction of the magnitude of waste impacts on landfill void capacity, rather than being a sensitive receptor in their own right.	Noted.	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	The sensitivity of receptors has been reproduced from the IEMA guidance. This approach is considered suitable.	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	B	We acknowledge that consultation has taken place with local authority stakeholders and the Environmental Agency and is ongoing through a working group. It is expected any	All engagement is included as appropriate in the Table 19.8 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			further engagement not accounted for will need to be updated in the PEIR.		
2.7	Is the future baseline scenario adequately described?	A	In the PEIR, the future baseline for landfill capacity has been developed through discussion with local stakeholders (LBC, CBC, HDC and the EA) and using simple statistical forecasting. Paragraph 19.7.31 needs to be clear on the sensitivity – it looks like all the possible outcomes are included. It is noted that future forecasting for resources is complex with fluctuations in national demand related to economic uncertainties and that the assessment therefore considers the effect of material consumption during construction and operation on the current baseline. This is considered suitable.	Noted. All baseline data has been reviewed and updated as appropriate in Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] . Since in all cases there is predicted to be a very considerable reduction in void capacity between the current and future baseline, the receptor sensitivity is determined to be very high.	Yes
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	It is noted that text outlining the effects that the assumption / limitation may have on the outcomes of the assessment has been included in Section 19.6 (Assumptions and Limitations); this is deemed suitable. Paragraph 19.6.3 states that 2019 data was used in the baseline, however landfill capacity data for 2020 is available. It is suggested that the most available baseline data will be updated in the PEIR.	All baseline data has been reviewed and updated as appropriate in Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
2.9	Which are the key receptors for the local authorities?	A	The proposed development will impact on landfill capacity and consume material resources within local authorities' regions. It is noted that local waste management infrastructure and capacity and the potential recycled content (% by weight) for key construction materials - based on good practice rates from WRAP's Designing Out Waste Tool for Civil Engineering - has been included in the PEIR.	The exact waste management facilities to be used and the sources of construction materials would be decided post consent by the construction contractor. A high level list of waste management facilities and key construction material suppliers in the study area has been included in Section 19.7 of	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			It is expected that the PEIR should also provide information on waste disposal facilities that might receive material excavated from the historic landfill and provenance of construction materials to be used.	Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].	
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	A	Embedded and Tertiary mitigation is clearly set out in section 19.8.	Noted.	No
3.2	Are the mitigation measures included for significant adverse effects appropriate?	N/A	No significant effects were identified.	Noted.	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	A	<p>Embedded mitigation measures for construction (described in Paragraph 19.8.5) are secured through the Draft CoCP and includes a site waste management plan. In response to the Scoping Opinion comment regarding the Draft CoCP, reference to a Materials Management Plan is included in paragraphs 19.8.5 and 19.11. It would be helpful to make clear that this will be produced by the contractor.</p> <p>A summary of evidence for designing out waste through workshops and liaising with the design team is included in Section 19.8 of the PEIR. Measures for securing mitigation are documented within the PEIR. There are no operational embedded mitigation measures required for waste,</p>	<p>It has been made clear in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] and the CoCP in Appendix 4.2 of the ES [TR020001/APP/5.02] that a Materials Management Plan will be produced by the Contractor.</p> <p>Noted.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			however good practice measures are discussed in paragraphs 19.8.14 – 19.8.15. Operational embedded mitigation measures for material resources are not required as effects are not significant, however good practice measures are incorporated in paragraphs 19.8.8 and 19.8.12.		
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	A	It is noted that a separate section on monitoring has been created (Section 19.13), however, it is acknowledged that as no significant effects have been identified, no monitoring is proposed other than the SWMP. It is noted that the Site Waste Management Plan incorporates appropriate monitoring arrangements and that monitoring of future operational waste and resources use will be undertaken as part of operational management procedures adopted. Monitoring of materials use would be required during construction; it is confirmed that this will be outlined in the Draft CoCP. The re-use of suitable arisings generated by the Proposed Development will be managed through implementation of a Materials Management Plan; it is recommended that this is also referred to in the Monitoring section, as part of best practice (though not conditioned).	The Materials Management Plan is referred to in the Monitoring section of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	A	Operational good practice measures for material resources have been incorporated in paragraphs 19.8.8 and 19.8.12.	Noted.	No
4	Assessment of Significant Effects				

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.1	Are the assessment methods/techniques used identified and described?	A	The assessment methods for determining significant effects are set out under paragraphs 19.5.14 to 19.5.19 and in Tables 19.14 – 19.15 and are considered appropriate and in line with the IEMA guidance.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Magnitude of impacts is discussed from paragraph 19.5.14, with criteria for the assessment of effects provided in Table 19.11. Content is considered appropriate.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	The criteria used for the assessment and evaluating significance are provided in Tables 19.14 and 19.15 and are considered suitable.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	The assessment methods are in accordance with the IEMA guidance.	Noted.	No
4.5	Have potential effects been considered both during construction and operation?	A	Yes, within Section 19.9. Sub-headings have been incorporated to aid the readers understanding of this section. The text clearly describes the waste and materials aspects and summarises the significance. Similar headings for the Operational section have been added.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	Magnitude and significance of effect is provided for waste generation and material resources for construction and operation. It is noted that the consumption of resources during construction has been updated to have a permanent effect on stocks, not a temporary one.	Noted.	No
4.7	Are significant adverse and beneficial effects identified and	B	Yes. This is clearly set out in paragraphs 19.9.25 and 19.9.26 for inert and non-hazardous construction waste; paragraph 19.9.27 for hazardous construction waste;	Noted. % sign has been added in Chapter 19 Waste and Resources of the	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
	described, with a justification for the 'significance' decision?		<p>paragraph 19.9.10 for construction material resources; paragraph 19.9.28 and 19.9.29 for operational non-hazardous waste; paragraph 19.9.30 – 19.9.32 for operational hazardous waste and paragraph 19.9.28-19.9.29 for operational resources.</p> <p>Note: 19.9.25a. – there appears to be a % sign missing from figure in brackets (0.6). The construction material resource thresholds now include estimated material tonnages to provide a more robust judgement of the effects. However, in Table 19.34 it is noted that the assessment of the impact on the availability of construction materials has been carried out at a national scale, rather than regional scale, without any clear and robust justification provided to support this; particularly as there is regional baseline data provided for some construction materials (crushed rock, sand and gravel, ready-mixed concrete, and asphalt). We would therefore recommend that, where possible, resource consumption is assessed as a percentage of the regional baseline - particularly for aggregates - rather than the national baseline where this data is available and provide justification for the use of national baseline figures, where applicable. Although the IEMA guidance does not include assessment criteria for availability of construction materials at a local scale, the local authority has raised a concern that there may be supply constraints locally for aggregates. Discussions have been held between the consultants and the local</p>	<p>ES [TR020001/APP/5.01], in line with the comment.</p> <p>Local and regional baseline information on resources has been included where possible. Resource consumption has been assessed as a percentage of the regional baseline where possible and justification for assessment at a national scale has been justified.</p> <p>Local baseline information is included and discussed, however resource consumption is not assessed as a percentage of the local baseline since the IEMA guidance does not include an assessment methodology for a local scale. Estimated construction material quantities including aggregates by year are included in Section 19.9 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].</p> <p>Text errors are corrected as appropriate in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>authority and this is expected to be addressed in the PEIR.</p> <p>Note: Table 19.48 – for each description for the significance of effect under column headed 'Description of effect and significance' there is text which states that the effect is 'Slight, significant'. This should be amended to 'Slight, not significant' in all cases.</p>		
4.8	Are the residual significant effects clearly stated?	N/A	No significant effects were identified, so discussion of residual effects is not required.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	C	It is noted (paragraph 19.3.6) that the cumulative assessment is provided separately in Chapter 21. It may be useful to provide a summary of the findings of the cumulative assessment in the PEIR. The zone of influence is correctly identified as the counties of Bedfordshire, Buckinghamshire and Hertfordshire.	A summary of the findings of the cumulative assessment are provided in Section 19.3 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	A	The assumptions and limitations section (19.6) notes that the assessment is based on the current design and that detailed information is not available. It is noted that text outlining the effect that the assumption / limitation may have on the assessment outcomes has been included with an addition of Reasonable Worst-Case approach, which is deemed suitable and sufficient for the assessment.	Noted.	No
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	Table 19.5 describes the scoping opinion and how this has been addressed in the PEIR. The response to Scoping Opinion ID 4.8.8 now states that the impact to the existing landfill site (within the Proposed Development boundary) is addressed within	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			the Waste and Resources chapter in paragraphs 19.9.22-19.9.23 and outlined in Table 19.43.		
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	A	Yes, the conclusions are clearly stated in section 19.9, and within Table 19.45 for construction, demolition and excavation waste, and in Table 19.46 for operational waste.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	The assessment has concluded there are no significant effects.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	A	Yes, subject to recommendations made throughout this review.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	B	It is noted that acronyms such as NHDC, CBC, LBC and HCC are described in full at the top of the chapter and included in a Glossary. Table 19.19 – check column headers, should top row be merged across columns? Table 19.47 – Text in first row (below header) in second column appears to be incomplete. General comment – it would be helpful to reference sources for data (e.g., rather than just saying EA published data).	Text errors are corrected as appropriate and full references are provided for data sources in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	Yes. However, it is recommended that paragraph 19.3.2 should be restructured for clarity – it is a lengthy sentence containing various data volumes of waste, rather than	Text in the ES NTS [TR020001/APP/5.04] has been reviewed and updated as appropriate.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			describing the impact on landfill capacity in relation to the assessment criteria. (Paragraph 13.3.3 for resources is more succinct and clearer).		
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	Yes.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	N/A	It is noted that reference has been made to the Redline boundary (Fig 2-1) as the primary study area for waste and resources. Figures 19.1 and 19.2 are provided with the Waste and Resources chapter. Figure 19.1 indicates the extent of the non-hazardous waste expansive study area, specifically the counties of Hertfordshire, Bedfordshire and Buckinghamshire. This is considered suitable, however, please check county boundary for Buckinghamshire – Milton Keynes district has been excluded. It is recommended that an explanation for this rationale should be included in the PEIR. Figure 19.2 shows the extent of the hazardous waste expansive study area which includes the East Midlands, East of England and Southeast England regions. This is considered suitable.	Figure 19.1 in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] has been updated to include Milton Keynes.	Yes
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	Appendix 19.1 Outline Site Waste Management Plan, as appended to the Waste and Resources chapter, is suitable and proportionate to support this type of document. It is referred to in the PEIR chapter for Waste and Resources as a suitable method for managing site arisings and waste generated during the construction phases of the Proposed Development.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
Conclusion					
	Legislation, Policy and Guidance	B	Review applicable legislation, policy and guidance (including local waste plans and policies) and ensure that the most recent legislation is referenced.	All legislation, policy, guidance, and references relevant to the Proposed Development has been reviewed and included as appropriate in Section 19.2 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
	Baseline Information	A	It is acknowledged that the baseline will be reviewed and updated throughout the assessment and should include updated data.	All baseline data has been reviewed and updated as appropriate in Section 19.7 of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
	Mitigation, Enhancement and Monitoring	A	It is recommended that the MMP is also referred to in the Monitoring section.	The Materials Management Plan is referred to in the Monitoring section of Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
	Assessment of Significant Effects	B	It is recommended that errors are updated/corrected accordingly.	Text errors are corrected as appropriate in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] .	Yes
	Conclusions	A	No further recommendations.	Noted.	No
	Presentation (including Figures and Appendices)	B	Table 19.19 – check column headers, top row should be merged across columns. Table 19.47 – Text in first row (below header) in second column appears to be incomplete. General comment – it would be helpful to reference sources for data (e.g., rather than just saying EA published data).	Text errors are corrected as appropriate and full references are provided for data sources in Chapter 19 Waste and Resources of the ES [TR020001/APP/5.01] . Figure 19.1 in Chapter 19 Waste and Resources of the ES	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Figure 19.1 – Please check county boundary for Buckinghamshire – Milton Keynes district has been excluded. It is recommended that an explanation for this rationale should be included in the PEIR.</p> <p>It is recommended that errors are updated/corrected accordingly.</p>	[TR020001/APP/5.01] has been updated to include Milton Keynes.	

B10 Economics and Employment review checklist and summary

Note: 'Ref.' is to tables 2-21 and 2-22 of the WSP on behalf of host authorities response.

Table B10.1: Economics and Employment

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>Section 11.2 refers to legislation, policy and guidance, specifically the national policies:</p> <ul style="list-style-type: none"> Airports National Policy Statement (ANPS) (2018); and Beyond the Horizon: The Future of UK Aviation Making Best Use of Existing Runways (MBU) (2018). <p>All policies referred to are the latest and most up to date.</p> <p>Whilst Table 11.1 refers to the majority of the latest versions of policies and Local Plans commented in the WSP 2019 review, reference to the following documents (current version at the time of writing) commented in the WSP 2019 review should be included within the chapter.</p> <ul style="list-style-type: none"> North Hertfordshire District Local Plan No. 2 (North Herts Council, 2017); Emerging Hertfordshire Local Enterprise Partnership (LEP) Local Industrial Strategy (Hertfordshire LEP, 2019); and Economic Insight (Central Bedfordshire Council, 2016). 	A comprehensive overview of legislation, policy, and guidance relevant to Economics and Employment is presented in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] . This has included the documents commented in the WSP 2019 review which were recommended for inclusion.	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change to	
	Aspect being reviewed	WSP code			Comments
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	B	<p>Comments from WSP 2019 review have been taken into account, where:</p> <ul style="list-style-type: none"> Paragraphs 11.5.3 to 11.5.5 outline the method of data collection within the Chapter. Specific reference has been provided where the data is used. The Assumptions and Limitations section (11.6) refers to Appendix 11.1 and the associated methods of baseline data collection have been summarised within the baseline methodology section. <p>While paragraphs 11.5.3 to 11.5.5 outline the method of data collection within the Chapter, paragraph 11.7.1 states that the business addresses identified are not based on the Oxford Economics forecasts but from public sources. The public source should be captured in Section 11.5.</p>	The method of data collection, including the public sources used for obtaining business address data, is presented at Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	Yes
2.2	Do the data collection methods follow relevant guidance?	N/A	No standard guidance for data collection methods for this type of assessment is available and hence the assessment does not make reference to any such guidance.	Noted.	No
2.3	Is the study area identified appropriately?	B	<p>Paragraphs 11.3.5 to 11.3.11 outlines the study area used, which are:</p> <ul style="list-style-type: none"> Immediate study area, Airport Employment Area (AEA) which is identified in Figure 11.1 Wider study area, Luton Borough Council, Bedfordshire, Hertfordshire and Buckinghamshire, which is identified in Figure 11.2; and the UK as a whole. 	<p>Paragraph 11.3.7 states that, “<i>the wider Study Area is considered for all other assessments, except for air passenger duty effects which are assessed for the UK as a whole only.</i>”</p> <p>Figure 11.3 is not included in the ES. The 60-minute peak hour drive time area is not used as the study area for the assessment of any effects but is used when</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			<p>Comments from 2019 review have been taken into account, where:</p> <ul style="list-style-type: none"> Paragraphs 11.3.5 to 11.3.6 set out which study/spatial areas apply to each of the effects assessed. Paragraph 11.3.5 explains how the Airport Employment Area (AEA) has been defined. <p>While paragraph 11.3.7 sets out which assessments the immediate area assessed, it would be advantageous for the reader to understand the chapter by detailing what assessments the wider study area assessed. While Figure 11.3 provides peak hour drive time from London Luton Airport, no reference to this figure has been provided in Chapter 11. It would be advantageous for the reader to understand the chapter by detailing what assessment Figure 11.3 is for.</p> <p>Section 11.6 details how the 60-minute drive time in relation to construction employment has been defined. While Table 11.10 refers to a 20-minute drive time of the airport in relation to direct off-site operational employment in the significance criteria section (11.5), it is not clear how this has been derived.</p>	<p>differentiating between ‘home-based’ and ‘non-home-based’ workers.</p> <p>The text regarding the 20-minute drive time area referred to in Table 11.10 has been amended to remove reference to this area and replace with an up-to-date definition of direct off-site operational employment applied in the assessment. This has also been addressed in Table 11.9.</p>	
2.4	Have all the resources/receptors been considered?	B	<p>There is no definitive list of receptors set out in the chapter.</p> <p>While paragraph 11.7.1 states the western area includes businesses directly related to airport activity, it is not clear how the two operations areas have been defined and no explanation of the western area and how the</p>	<p>A definitive list of receptors is not considered appropriate for Economics and Employment. This is because Economics and Employment considers economic, environmental, and displacement</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change to	
	Aspect being reviewed	WSP code			Comments
			<p>East and West areas apply to the assessment. It would be advantageous for the reader to understand the chapter by referencing Figure 11.3 in paragraph 11.7.1. Although it is clearly described that the business addresses considered within the assessment are not derived from the Oxford Economics forecasts (paragraph 11.7.1), it is not clear which public sources they have been obtained from or why those businesses have been identified.</p>	<p>factors that affect employees, businesses, and the economy in the whole of the UK and therefore it is not possible to list all individual receptors. Where relevant, specific receptors are referred to in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>The east and west operation areas in Figure 11.1 and referred to in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01], correspond to the two Lower Layer Super Output Areas (LSOAs) that cover Luton Airport. This is Section 11.7 of Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01]. Figure 11.3 is not included in the ES.</p> <p>The method of data collection, including the public sources used for obtaining business address data, is presented at Section 11.5 of Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	Paragraph 11.5.20 details the sensitivity criteria of receptors and described the allocation of sensitivity may be based on quantitative, qualitative and professional judgement.	<p>The sub-heading for paragraphs 11.5.20-11.5.21 has been corrected Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			There is a typo of the sub-heading where “Sensitivity of Impact” should be “Sensitivity of Receptors”.		
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>Section 11.4 provides a list of working group representatives and Table 11.5 provides a summary of consultations with Economics and Employment related stakeholders. The information includes consultation dates, attendees and summary of discussion. The outcome or next steps discussed during consultations can be added in Table 11.5 to provide a detail responsibility and action to be undertaken in ES stage.</p> <p>Table 11.4 provides a summary of consultee’s comments and how they have been addressed in the PEIR. However, it is not clear which consultee has made the comments in Table 11.4, it would be useful to include a list of the consultees’ that provided comments in relation to economics and employment.</p> <p>It is also not clear which teams specifically within each of the bodies were engaged with. The WSP 2019 review noted the consultation response from Central Bedfordshire Council has requested that the following teams be engaged, however it is not apparent if these have formed part of the stakeholder sessions and/or consultation for the preparation of the PEIR assessment:</p> <ul style="list-style-type: none"> • Business and Investment team (social value, business support, inward investment); 	<p>Table 11.4 follows a defined structure and is presented the same way for other disciplines. Paragraph 11.3.4 provides an introduction for Table 11.4, explaining that the comments in the table are from the Planning Inspectorate. Responses to all comments received during scoping are presented in the Scoping Opinion and Scoping Report [TR020001/APP/5.05].</p> <p>Reference to details of the discussions held with stakeholders has been provided in Table 11.5, this includes details on outcomes and next steps discussed where relevant.</p> <p>A working group was formed for the stakeholder engagement and consultation for Economics and Employment. A list of the representatives which formed the working group is provided in Section 11.4 of Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>All reference errors have been fixed in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> • Employment and Skills – strategy team; and • Bedfordshire Employment and Skills Service (Adult Learning). <p>A cross reference is showing as “Error! Reference source not found” in Table 11.4.</p>		
2.7	Is the future baseline scenario adequately described?	C	<p>Paragraph 11.7.14 reports future baseline section in the chapter. It describes future baseline in regard to population, labour supply and employment.</p> <p>There is no reference on future baseline in regard to business travel jobs, tourism GDP, tourism jobs, journey time savings, APD revenue, and labour on local housing market which form part of the Economics and Employment assessment.</p> <p>There are mentions of future baseline in assessment section (11.9). The ‘future baseline’ only takes into account the consented capacity of the airport and planned development at New Century Park. It does not consider any other factors, such as other major schemes and strategies coming forward, such as the Hertfordshire LEP Strategic Economic Plan.</p> <p>Section 11.9 presents a “Without Development” and “Do Minimum” case when assessing future baseline. It is unclear the differences between the two cases. It would be advantageous for the reader to understand the chapter by standardising the naming of “future baseline” cases.</p>	<p>Only the ‘without development’ scenario is referred to in the ES [TR020001/APP/5.01]. Reference to a “Do Minimum” case has now been removed, including for the assessment on the future baseline.</p> <p>Section 11.7 of Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] sets out the future baseline and explains in paragraph 11.7.16 that the future baseline is used as a comparator in the assessment where appropriate. For clarity, some of the text in paragraph 11.9.27 has been moved up to Section 11.7 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>Other major schemes and strategies are relevant factors and have informed the context for the assessment and have also informed the Employment and Training Strategy identified in Section 11.10 as Additional Mitigation.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			The future baseline is currently being reported in various sections, including Sections 11.7 and 11.9. It would be advantageous for the reader to understand the chapter by grouping all future baseline assessment in one section.		
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	A	Assumptions and limitations are provided within Section 11.6 of the Chapter.	Noted.	No
2.9	Which are the key receptors for the local authorities?	C	<p>A list of receptors is not provided within the chapter.</p> <p>It is considered that the key receptors are the businesses that are likely to be displaced as a result of the construction of the Proposed Development, as these receptors are likely to experience an adverse effect. It is also considered that the key receptors are the Luton, Three counties and UK's economy.</p>	A definitive list of receptors is not considered appropriate for Economics and Employment. This is because Economics and Employment considers economic, environmental, and displacement factors that affect employees, businesses, and the economy in the whole of the UK and therefore it is not considered necessary for Economics and Employment to list all the receptors. Where relevant, specific receptors are referred to in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] . Similarly, a definitive list of receptors is not provided in Chapter 13: Health and Community of the ES [TR020001/APP/5.01] .	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant	A	Embedded and good practice mitigation measures are provided within Section 11.8 and potential additional mitigation measures are identified in Section 11.10.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
	adverse effects of the proposed development?				
3.2	Are the mitigation measures included for significant adverse effects appropriate?	A	The majority of significant effects described in Section 11.9 are beneficial and therefore mitigation measures are not considered necessary for the majority of the effects.	Noted.	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	N/A	Mitigation measures in Section 11.8 and 11.10 are beneficial and therefore mitigation measures are not considered necessary for the majority of the effects.	Noted.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	N/A	There are no monitoring requirements identified within the chapter. It is considered that monitoring of the local businesses (specifically during the construction phase) would be appropriate to ensure adverse effects are avoided where possible.	The monitoring of local businesses is not considered necessary for Economics and Employment as the assessment concludes no significant adverse effects and embedded mitigation has been incorporated to minimise any adverse effects. Any monitoring requirements associated with noise, traffic or air quality are included in the relevant chapters where appropriate.	No
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	N/A	The method of securing and implementing mitigation measures and with whom the responsibility for their delivery should be provided. Mitigation measures for the construction displacement of 350 jobs for existing businesses and 593 jobs for planned development as described within paragraphs 11.9.11 and 11.9.15 could be included, for	Where relevant, mitigation measures are included at Section 11.8 and Section 11.10 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			example in the form of financial compensation.		
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	B	<p>The methodology for assessing the impacts is provided within Section 11.5. As outlined above, the study area for each effect is not apparent.</p> <p>The use of multipliers is mentioned in Section 11.5 and the statement that these are 'appropriate', however there is no explanation or justification as to how/why they are appropriate/relevant to the assessment.</p>	<p>Paragraph 11.3.7 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] sets out which study area is applied for which assessments.</p> <p>Justification for the use of multipliers is presented at Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	Yes
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	The methodology for determining the magnitude of impact is clearly defined in Table 11.7.	Noted. The method for determining the magnitude of impact is set out in Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	No
4.3	Are the methods for evaluating significance clearly defined/?	A	The methods for evaluating significance are clearly defined in Table 11.8 using the magnitude of impact and the sensitivity of the receptor/resource.	Noted. The method for evaluating significance is set out in Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	No
4.4	Do the assessment methods used follow relevant guidance?	B	<p>The assessment methods follow the HM Treasury Guidance and HCA Additionality Guide which is used to define the appropriate multipliers when accounting for induced and indirect employment during the construction phase, an appropriate multiplier of 1.5 has been used (as stated in Section 11.5).</p> <p>The assessment method follows the Department for Transport's WebTAG guidance for tourism effects (as stated in paragraph 11.5.36).</p>	<p>The Department for Transport's webTAG guidance is now included in Table 11.3 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>Paragraphs 11.5.13 and 11.9.6 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] amended to state the assumption is based on</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			<p>Department for Transport's WebTAG guidance has been referred to in the methodology section (11.5) which should be added to Table 11.3.</p> <p>Paragraphs 11.5.13 and 11.9.6 state that "ten construction job years is assumed to equate to one FTE job" is based on the HM Treasury's standard approach. The HM Treasury guidance document 'The Green Book' does not contain this information, please provide the source of this approach.</p>	the HM Treasury's standard approach.	
4.5	Have potential effects been considered both during construction and operation?	B	<p>Potential effects during both construction and operation of the Proposed Development are considered in the assessment, which is provided in Section 11.9. The sensitivity of receptors, magnitude of impact and significance of effect have been appropriately assessed.</p> <p>There is a description of the spatial/study areas that are considered in the assessment, as well as the breakdown of the assessed number of jobs and for Luton, Three Counties and the UK during operation have been reported.</p> <p>The 2019 review note that the local authorities are keen to understand the employment potential for each area, however the effects do not split this out and just report effects for Luton and the Three counties combined.</p> <p>Effects could be reported at a more local level (i.e., by each local authority rather than combined for Luton and the Three counties)</p>	<p>The Scoping Report in Appendices 1.1, 1.2 and 1.3 of the ES [TR020001/APP/5.01], PEIR available at the 2022 statutory consultation or ES [TR020001/APP/5.01] do not set out to provide effects at the individual authority level of each authority in the Three Counties except Luton. This is because Luton is the only local authority located within the immediate study area, also defined as the Airport Employment Area. Also, the economic effects reported at the Three Counties level is considered appropriate to the impact area defined in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			would be more appropriate to show how the employment opportunities will be spread, also taking into account constraints posed by peak hour traffic congestion. This should be considered within the chapter.		
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	C	<p>The magnitude of impact and significance of effect is stated for all effects in Section 11.9 and Table 11.19.</p> <p>The duration of effects is not stated in Section 11.9 nor Table 11.19, except for Direct employment, indirect and induced employment; Direct and indirect GVA; and Displacement of businesses and employment.</p> <p>Probability and reversibility are not considered for any of the effects in Section 11.9.</p>	<p>The duration of wider operational impacts is included in Section 11.9 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>Reversibility of operational effects is explained and included as an assumption in Section 11.6 Probability isn't a factor in the assessment methodology for economics and employment. This is explained in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	Yes
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	<p>All effects described in Section 11.9 identify whether the effects are determined as significant or not significant.</p> <p>The justification for significance is provided in the methodology section (11.5), paragraph 11.5.23 which clearly states that major or moderate effects are considered significant, whilst minor and negligible effects are considered as not significant.</p>	Noted.	No
4.8	Are the residual significant effects clearly stated?	A	Residual effects are stated for each effect in the summary table provided (Table 11.19) within Section 11.14.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	A	Chapter 21 In-Combination and Cumulative Effects has outlined the cumulative effects for economics and employment.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			Table 21.12 provides a long list of developments that have the potential to have an impact on employment, GVA and displacement of businesses and employment. The table also provides the residual cumulative effects on the effects assessed in Chapter 11.		
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	Uncertainties with regard to expansion of Luton Airport and its effect on GDP or employment from outbound tourism stated within paragraph 11.6.3. There is no specific statement to explicitly say that there are no other uncertainties.	It is recognised that there are a number of uncertainties associated with the assessment of Economics and Employment effects. However, it is not considered necessary to list these out in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] . It is acknowledged that there may be other uncertainties and paragraph 11.6.3 has been amended to highlight this and explain where these uncertainties exist, they have been recognised in the approach and assessment as appropriate.	Yes
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	Table 11.4 details the comments in the scoping opinion (ID) in relation to economics and employment and how these comments are addressed within Chapter 11 of the PEIR.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	C	No concluding or summary text is included within the chapter.	A conclusion section is included in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	Yes
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	A summary of all effects (both significant and not significant) is provided as Table 11.19 which comprehensively describes the key aspects of the assessment (magnitude,	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			receptor sensitivity, embedded and additional mitigation, preliminary and residual effect).		
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	<p>The chapter appears to be unbiased and comprehensive. The chapter would benefit from a clearer structure in places, specifically, the methodology and baseline information sections. These sections should be assembled according to each effect that is described in Section 11.9.</p> <p>The methodology presented in Section 11.5, specifically for “Wider Economic Impacts” reported could be assembled in different sub-headings according to each effect/sub-heading described in Section 11.9. The baseline information presented in Section 11.7 is limited and does not include reference to each effect described in Section 11.9, specifically for “Wider Economic Impacts” reported. The study area for each effect assessed should be tabulated and justification for each study area used should be provided.</p>	<p>Section 11.7 and Section 11.9 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] do not lend themselves to being structured under the same subheadings. Where possible, this approach is applied in the ES.</p> <p>For greater clarity, the wider economic impacts methodology in Section 11.5 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] is presented according to the relevant subheadings from Section 11.9.</p> <p>Paragraph 11.3.7 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] sets out which study area is applied for which assessments.</p>	Yes
6.2	Is the PEIR readable to the audience for which it is intended?	B	The PEIR is readable and uses language appropriate for the intended audience. However, the chapter would benefit from a clearer structure in places (as outlined in 6.1 of this table).	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	The language used in the Non-Technical Summary is suitable and free from technical jargon. Any specific more technical terms are helpfully described as footnotes, including GDP, FTE and GVA.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	B	<p>The majority of text within the Non-Technical Summary matches the findings of the PEIR. Paragraph 11.3.1 states “When comparing the employment growth and GDP by 2043 with existing employment and GDP in 2019, the total number of new jobs would be approximately 4,800 in Luton and an additional £755m in GDP, 6,600 in the Three Counties with £1bn in GDP, and a total of 12,100 across the UK equating to additional £1.6bn in GDP.” These values appear to be different to the net employment and GDP value (direct, indirect and induced) reported in Table 11.14 of the chapter.</p> <p>It would be helpful to include a table or bullet points to show how this is broken down into additional jobs within the Luton and the Three Counties for a simpler understanding.</p>	The ES NTS [TR020001/APP/5.04] and Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] are consistent with respect to net employment and GDP values (direct, indirect, and induced) for Luton, the Three Counties, and the UK.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	<p>The figures display the spatial areas that are included within the assessment. It is not clear how the east and west operation areas included within Figure 11.1 have been defined. If the Airport Employment Area, which is described in paragraph 11.3.5, corresponds to the operations areas this needs to be stated. As stated above, it’s not clear how these areas apply to the assessment.</p> <p>Figure 11.2 has been referenced in the chapter appropriately to support the assessment.</p> <p>There is no reference to Figure 11.3 in the chapter and how the figure relates to the assessment.</p>	The east and west operation areas in Figure 11.1 and referred to in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01], correspond to the two LSOAs that cover Luton Airport. This is explained in the ES at Section 11.7. Figure 11.3 is not included in the ES.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	B	It is not clear which of the baseline information states in Section 11.7 is derived from Appendix 11.1 (Oxford Economics The Economic Impact of London Luton Airport). There are references (Ref. 11.34) for each data extracted from the Economic Impact of London Luton Airport reported. However, it would provide clarity if where data extracted from Appendix 11.1 (same source as Ref 11.34) is used in the chapter, it is also referenced/signposted appropriately. Appendix 11.1 supports the information appropriately; however, it is not clear where in the chapter Appendix 11.1 is used.	The Economic Impact Assessment in Appendix 11.1 of the ES [TR020001/APP/5.02] is supported by additional spreadsheets. Data from these Oxford Economics spreadsheets has been used to inform the calculations and numbers presented in this report. References to where the data extracted from Appendix 11.1 of the ES [TR020001/APP/5.02] has been used has been added throughout Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	Yes
Conclusion					
	Legislation, Policy and Guidance	B	Reference to the following documents should be included within the chapter: <ul style="list-style-type: none"> • North Hertfordshire District Local Plan No. 2. • Emerging Hertfordshire Local Enterprise Partnership (LEP) Local Industrial Strategy; and • Economic Insight. A detailed review of the relevant policies and summary of relevant policies is provided.	A comprehensive overview of legislation, policy, and guidance relevant to Economics and Employment is presented at Section 11.2 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] . This includes the documents listed.	Yes
	Baseline Information	B	References to the majority of the source of the information has been included. Section 11.7 should present baseline information that directly informs the assessment (Section 11.9), to provide clarity, it would aid the reader if the baseline section structure was split up according to each	Section 11.7 and Section 11.9 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] do not lend themselves to being structured under the same subheadings. Where possible, this approach is	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change to	
	Aspect being reviewed	WSP code			Comments
			<p>effect/sub-heading described in the assessment section.</p> <p>A table listing the identified receptors and their sensitivity would be helpful and provide clarity, this could be included as an appendix. The future baseline (referred to as the “Do-minimum” and “Without Development” case) is described in the baseline section (11.7) and assessment section (11.9). All information related to future baseline could be grouped and presented under one section/sub-heading to reduce confusion.</p>	<p>applied in the ES.</p> <p>A definitive list of receptors is not considered appropriate for Economics and Employment. Similarly, a definitive list of receptors is not provided in Chapter 13 Health and Community of the ES [TR020001/APP/5.01]. This is because Economics and Employment considers economic, environmental, and displacement factors that affect employees, businesses, and the economy in the whole of the UK and therefore it is not considered necessary for Economics and Employment to list all the receptors. Where relevant, specific receptors are referred to in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>Section 11.7 sets out the future baseline and explains in paragraph 11.7.16 that the future baseline is used as a comparator in the assessment where appropriate. For clarity, some of the text in paragraph 11.9.27 has been moved up to Section 11.7 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p>	
	Mitigation, Enhancement and Monitoring	B	As included in Ref. 3.5 above, the method of securing and implementing mitigation	Where relevant, mitigation measures are included at Section 11.8 and Section 11.10 in Chapter	No

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
			<p>measures and with whom the responsibility for their delivery should be provided. Measures to mitigate the displacement of 350 jobs for existing businesses and 593 jobs for planned development as described within paragraphs 11.9.11 and 11.9.15 (a minor adverse effect) could be included, for example in the form of financial compensation.</p> <p>Monitoring of local businesses during the construction phase is also recommended.</p>	<p>11 Economics and Employment of the ES [TR020001/APP/5.01]. Further information is also contained in the Mitigation Route Map [TR020001/APP/5.09].</p> <p>The monitoring of local businesses is not considered necessary for Economics and Employment as the assessment concludes no significant adverse effects and embedded mitigation has been incorporated to minimise any adverse effects.</p>	
	Assessment of Significant Effects	B	<p>Any uncertainties in the design, mitigation or assessment should be explicitly stated, it should also be stated if there are no uncertainties. The probability and duration (temporary/permanent) of all effects included in the assessment should be considered and clearly stated. The study area for each effect should be clearly stated. The study area for each effect should be clearly stated. A breakdown of the effects at a more local level (rather than Luton and Three counties combined) should be provided.</p>	<p>It is recognised that there are a number of uncertainties associated with the assessment of Economics and Employment effects. However, it is not considered necessary to list these out in the chapter. It is acknowledged that there may be other uncertainties and paragraph 11.6.3 has been amended to highlight this and explain where these uncertainties exist, they have been recognised in the approach and assessment as appropriate.</p> <p>The duration of wider operational impacts is presented in Section 11.9 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01]. Operational effects are not reversible, and probability is not a factor in the assessment methodology for economics and</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change to
	Aspect being reviewed	WSP code	Comments		
				<p>employment. This is explained in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01].</p> <p>Paragraph 11.3.7 in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] sets out which study area is applied for which assessments.</p> <p>The Scoping Report in Appendices 1.1, 1.2 and 1.3 of the ES [TR020001/APP/5.01], PEIR available at the 2022 statutory consultation or ES [TR020001/APP/5.01] do not set out to provide effects at the individual authority level of each authority in the Three Counties except Luton.</p>	
	Conclusions	B	A comprehensive summary table is included at the end of the Chapter however no concluding text is provided in the chapter.	A conclusion section is now included in Chapter 11 Economics and Employment of the ES [TR020001/APP/5.01] .	Yes
	Presentation (including Figures and Appendices)	B	See Refs. 6.1 to 6.6 within Table 9.1 above.	See responses above.	No

B11 Health and community review checklist and summary

Note: 'Ref.' is to tables 2-23 and 2-24 of the WSP on behalf of host authorities response.

Table B11.1: Health and Community

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	C	<p>Section 13.2 refers to legislation policy and guidance. The Airports National Policy Statement has been listed and a good number of local planning policy documents have been included, however, some key policy and guidance has been omitted. (See Table 13-2 below for inclusions)</p> <p>Given the type of development and the inclusion of WebTAGs within the methodology, Transport Appraisal Guidance (TAG) guidance should be included here.</p> <p>The chapter lists only the relevant local plans and strategies but does not include reference to the relevant policies that have informed the scope, methodology or mitigation.</p> <p>The national planning policy and guidance section should consider the following for inclusion:</p> <ul style="list-style-type: none"> • Fair Society, Healthy Lives, The Marmot Review 2010 • Public Health Outcomes Framework 2012 • Health and Social Care Act 2012 	<p>Additional text has been added to the legislation, policy and guidance section in Chapter 13 Health and Community in the ES [TR020001/APP/5.01]. This now also includes the following:</p> <ul style="list-style-type: none"> • Health and Social Care Act 2012 • Equality Act 2010 • Fair Society, Healthy Lives, The Marmot Review 2010 • Public Health Outcomes Framework 2013 • Planning Practice Guidance – Healthy and Safe Communities • Transport, health and wellbeing: An evidence review for the Department for Transport, 2019 • Hertfordshire County Council's Sustainable Hertfordshire strategy 2022 • Dacorum Local Plan (2020-2038) Emerging Strategy for Growth, Nov 2020 	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code		
			<ul style="list-style-type: none"> • DfT, TAG UNIT A4.1, Social Impact Appraisal, 2019 • Planning Practice Guidance – Healthy and Safe Communities • Equality Act, 2010 • Transport, health and wellbeing: An evidence review for the Department for Transport, 2019 • Hertfordshire County Council's Sustainable Hertfordshire strategy • NHDC District and Stevenage Borough health profiles 	<ul style="list-style-type: none"> • Dacorum Borough Council's Equal Opportunity Policy Statement, September 2013 • Delivering for Dacorum, Corporate Plan (2020-2025) • Dacorum Borough Council Local Plan Policy Advice Note, 2013 • Highways England, 2020, Design Manual for Roads and Bridges: LA112 – Population and Human Health <p>DfT, TAG UNIT A4.1, Social Impact Appraisal, 2019 and UK Government. (2019). Transport Analysis WEBTAG Guidance have both been added.</p> <p>The ES makes reference to the relevant policies that have informed the scope, methodology or mitigation. The Borough health profiles do not fit under the category of legislation, policy and guidance, but are linked to the profiling of baseline conditions. Data for the local neighbourhood area was collected at the unitary authority ward level and data for the wider area baseline was collected at county level. Therefore, district level baseline data was not collected for Stevenage and North Hertfordshire</p>

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				District Council (NHDC) as they are present within Hertfordshire County, which is included in the wider area baseline. 'Hitchwood, Offa and Hoo' ward, present within NHDC, is covered under the South and East of the airport local neighbourhood area.	
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	Baseline data collection methods are identified and described in detail within Appendix 13.4, Section 513.5 (Methodology), with distinct methodologies provided for the collection of baselines in relation to health, the community, and the future baseline.	Noted.	No
2.2	Do the data collection methods follow relevant guidance?	A	Data collection methods and methods of assessment follow relevant industry guidance which has been set out in Table 13.4: Health and community guidance.	Noted.	No
2.3	Is the study area identified appropriately?	B	The spatial study area for the assessment have been defined in para 13.3.5 and represented in both Table 13-6 and Figure 13-1. A figure of the wider study area has not been mapped due to the variance of location of impacts for each determinant. It would be useful to include a cross reference to the Figures where these impacts are mapped by relevant topics (if available).	Cross references to the figures where impacts are mapped by the relevant topics has been included in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] , where available.	Yes
2.4	Have all the resources/receptors been considered?	B	All receptors have been considered at this stage, with specific vulnerable groups, and sub-groups, set out in Table 13.11 There is acknowledgement of health inequalities in relation to the proportion of vulnerable groups within the population of	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			Luton, which is higher than the national average.		
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	Yes, the criteria are clear and easy to follow.	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>Section 13.4 summaries stakeholder engagement and consultation, with a summary of engagement activities set out in Table 13.7.</p> <p>Reference to the 2019 Statutory Consultation Feedback Report is made, which includes a full account of the previous consultation process, with the main themes summarised in para 13.4.5.</p> <p>Details of the membership of a Health working group that was established for this topic assessment is set out in 13.4.6.</p>	Noted.	No
2.7	Is the future baseline scenario adequately described?	C	A future baseline scenario has not been described, though the approach is set out in para 13.7.48, with reference to being influenced by economic and health policy and demographic trends in Appendix 13.4 (para 5.3.1). It would be useful to understand future population projections, and what, if any, health issues have been identified for the future population (e.g., a larger, aging population).	Extra information on future population projections has been added to Chapter 13 Health and Community in the ES [TR020001/APP/5.01] , where available.	Yes
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	A list of assumptions and limitations have been set out in Section 13.6. Use of professional judgement is made clear, specifically around in-combination effects (para 13.5.6) and in the application of guidance (para 13.5.15) and the determination of significance (para 13.5.20).	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.9	Which are the key receptors for the local authorities?	B	<p>The identification of key receptors needs to be discussed with LPAs; however, it is considered for the health and communities topics that the key receptors for the LAs would be people living and working in the LA and the services they use.</p> <p>Within Section 13.3, receptors for health are identified as a population experiencing health effects arising from impacts on health determinants. For the community assessment, the receptors are the people experiencing effects arising from impacts on community resources that they use. These populations and people are those that live and/or work within the defined study area for the assessment.</p>	Noted.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B	Section 13.8 (Embedded and good practice mitigation measures) describes measure such as the introduction of a construction-specific Community Engagement Strategy, and phased workings to limit dust, noise, visual, and lighting impacts. Cross-references are provided to measures proposed to avoid, reduce or offset effect by other relevant topics.	Noted.	No
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B	<p>Mitigation of significant adverse effects seems appropriate and matches that proposed in other relevant chapters e.g., Noise, landscape and visual.</p> <p>Embedded mitigation has sought to avoid impacts on the users of Wigmore Valley Park from the closure and re-provision of the park</p>	Where applicable, additional information has been added to confirm agreement with host authorities around proposed mitigation measures to Chapter 13	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>during construction. These measures include maintaining access, providing replacement open space and following best practice construction measures. No further additional mitigation has been proposed.</p> <p>It is recommended that details of outcomes from discussions with Host Authorities is included to confirm their agreement with the proposed mitigation measures.</p>	Health and Community in the ES [TR020001/APP/5.01].	
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	A	<p>Mitigation measures have been outlined in section 13.8, which includes all embedded and good practice mitigation measures identified by other topics (Air quality, Traffic and Transport, Noise and Vibration, Economics and Employment and Landscape and Visual). Additional mitigation is set out Section 13.10.</p> <p>The responsibility for delivering the mitigation lies has been identified where possible.</p>	Noted.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	<p>Monitoring requirements directly related to health outcomes have not been set out due to the challenge of identifying and measuring health effects resulting solely from the Proposed Development. This is a common challenge in monitoring health assessment outcomes, where multiple factors are addressed simultaneously. Monitoring measures during construction are set out in the Code of Construction Practice (CoCP) and cover changes to air quality, noise, employment and apprenticeships.</p>	Noted.	No
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	<p>Mitigation measures should be included for employees impacted by relocation from New Century Park and President Way to alternative accommodation (potential long-</p>	Table 13.15 in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] identifies	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>term impacts on employment status for some individuals identified).</p> <p>As identified within the Landscape Review, both Hertfordshire County Council and North Hertfordshire District Council state that they are broadly satisfied with the quantity of replacement and additional public open space (POS) that is to be provided but queried the percentage of additional open space compared to Wigmore Valley Park. They are also satisfied in principle with the approach to locating the more formal park uses closer to the urban area, transitioning to the more informal provision, which is more rural in character, within the open countryside. However, they have reservations regarding the relationship between the embedded and additional mitigation (in the ownership of the applicant), and how these areas will contribute to the setting and presentation of the POS, and how they will function as a whole is critical.</p>	<p>that there may be a minor adverse effect on health arising from impacts on employment and income related to the relocation of businesses. It highlights that mitigation will be in the form of compensation to be provided to enable businesses to relocate.</p> <p>The Applicant has continued to work with the local authorities to agree the approach to Public Open Space (POS) provision. The health assessment in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] has informed these discussions and the ES reflects the outcomes of these discussions.</p>	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	The assessment Methodology has been presented in section 13.5 which explains how the assessment has been undertaken to identify the impacts of the proposed Development on health determinants and community resources. The methodology is similar to that used in a stand-alone HIA and based on associated guidance. Clarity is given on the relationship between the health and community topic assessment and other relevant topics in the PEIR.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Magnitude has been well defined for the assessment of both health and community determinants. Guidelines are provided in Table 13-8.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Determination of significance has been well defined in the matrices in Table 13-10. It follows a method of magnitude of impact vs sensitivity of receptors, the methods of which have been supplied in the sub-sections previously.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	WebTAG assessment method has been used to evaluate the health effects arising from increased aircraft noise. Further information on quantitative assessment and the results of the WebTAG assessment are presented in Section 13.8. The methodology section (13.5) outlines some of the guidance followed (para 13.5.3) which are all considered to be industry standard.	Noted.	No
4.5	Have potential effects been considered both during construction and operation?	A	Construction and operational effects have been identified.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	B	Duration, magnitude and significance have been considered in the assessment and are as outlined in Tables 13-8 and 13-9. These follow through into the assessment and summary table 13.15, however, the probability and reversibility of impacts have not been clearly outlined.	The assessment within Chapter 13 Health and Community in the ES [TR020001/APP/5.01] has been updated accordingly. Tables 13-8 and 13-9 define probability and reversibility under 'guidelines for magnitude of impact on health determinants'.	Yes
4.7	Are significant adverse and beneficial effects identified and	B	The significance decision is not always fully justified, more emphasis in the assessment	Noted. Further justification is provided in Chapter 13 Health and	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	described, with a justification for the 'significance' decision?		table is based on mitigation. Table 13-15 includes an additional column on the impacts on health determinants, a similar column should be included in table 13-16, whereby the potential impacts on community receptors are identified.	Community in the ES [TR020001/APP/5.01].	
4.8	Are the residual significant effects clearly stated?	A	Residual effects have been identified within the summary tables for both health and community impacts.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	A	<p>It is expected that the interaction of effects and cumulative effects would be considered as part of the ES.</p> <p>A full Cumulative effects assessment has been undertaken, as outlined in Section 13.3, and is included within Chapter 21 (In-Combination and Cumulative Effects Assessment).</p> <p>Chapter 21 (In-Combination and Cumulative Effects Assessment) has outlined the methodology, proposed 'Zones of Influences', a long list of developments and a summary of key environmental issues that have been considered in the CEA.</p>	Noted.	No
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	No uncertainties have been identified for the mitigation element of the assessment. Limitations and uncertainties relating to the assessment have been identified and outlined, with specific reference to Chapter 5, whereby the uncertainty in the assessment is outlined, and flexibility in design is stated.	'Embedded Mitigation' for health and community relies completely on embedded mitigation from other topics including air quality, noise, landscape and visual, traffic and transport and Economics and employment as highlighted in Section 13.8 in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] . These topics	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>outline any uncertainties related to this mitigation.</p> <p>In terms of Additional Mitigation, the only mitigation highlighted is in relation to the possible relocation of the Prospect House Day Nursery and the Ace Sandwich Bar. The former will be secured through the Section 106 agreement. Further information on the latter highlighted in paragraph 13.11.6 in Chapter 13 Health and Community in the ES [TR020001/APP/5.01].</p>	
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	Table 14-5 includes comments from the scoping opinion and outlines how they have been addressed, either within the chapter or within the PEIR.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	N/A	A summary of the assessment is provided in Table 13.15.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Summary of significant effects has been presented with Chapter 21, Table 21-1.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	In general, the PEIR is unbiased, balanced and transparent. As outlined above, there are some sections that require further information to make them more comprehensive.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	B	Yes, the PEIR is readable and clearly structured.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	Yes, generally clear and concise.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	B	The findings match up; however, the NTS chapter should make a clearer distinction between health and communities throughout.	The ES NTS [TR020001/APP/5.04] has been updated accordingly.	Yes
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	The figures are well presented and are as expected, however, the defined study areas within Figure 13-1 could be outlined clearer.	Noted. Figure 13-1 has been updated in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] to provide a clearer outline.	Yes
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	Multiple appendices are included within health and communities for Volume 3, supporting evidence and methodology sections, as well as providing survey questionnaires and results used within the Chapter's baseline and evidence.	Noted.	No
Conclusion					
x	Legislation, Policy and Guidance	B	This section contains a good number of local planning policy documents; however, some key policy and guidance have been omitted. The chapter lists only the relevant local plans and strategies but does not include reference to the relevant policies that have informed the scope, methodology or mitigation. It is suggested that specific policies from these plans and strategies are included within the Legislation, Policy and Guidance section.	Additional text has been added to the legislation, policy, and guidance section to reflect the list below in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] . Please refer to the response to Ref 1.1 for the list of documents considered.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>The national planning policy and guidance section should consider the following for inclusion:</p> <p>Fair Society, Healthy Lives, The Marmot Review 2010</p> <p>Public Health Outcomes Framework 2012</p> <p>Health and Social Care Act 2012</p> <p>Daft, TAG UNIT A4.1, Social Impact Appraisal, 2019</p> <p>Planning Practice Guidance – Healthy and safe communities, 2019</p> <p>Equality Act, 2010</p> <p>Transport, health and wellbeing: An evidence review for the Department for Transport, 2019</p> <p>Hertfordshire County Council’s Sustainable Hertfordshire strategy</p> <p>NHDC District and Stevenage Borough health profiles</p>		
	Baseline Information	B	<p>A good level of baseline information has been provided, The ES should clearly describe all consultation related to the EIA process identifying who has been consulted and how the feedback / comments.</p> <p>Future baseline is not detailed fully, and it is recommended that this is included in the ES.</p>	<p>Please refer to the response to Ref 2.7 in respect of the future baseline. Consultation undertaken to inform the health assessment is documented in Chapter 13 Health and Community in the ES [TR020001/APP/5.01].</p>	No
	Mitigation, Enhancement and Monitoring	B	<p>Mitigation and enhancement measures are generally good. The mitigation of significant adverse effects seems appropriate and matches that proposed in other relevant chapters e.g., Noise, landscape and visual.</p> <p>The section could be improved by including mitigation for employees impacted by relocation from New Century Park and President Way to alternative accommodation</p>	<p>Please refer to the response to Ref 3.5</p> <p>Where applicable, specific monitoring measures have been included in Chapter 13 Health and Community in the ES [TR020001/APP/5.01].</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>(potential long-term impacts on employment status for some individuals identified).</p> <p>Specific monitoring measures have not been included; however, it is assumed that these will be included within the ES where applicable.</p> <p>Whether mitigation measures are sufficient to reduce significant adverse effects needs to be considered in consultation with the LPAs.</p>		
	Assessment of Significant Effects	B	<p>The Methodology for the assessment is clear and have been based upon best practice and current guidance. Table 13-15 includes an additional column on the impacts on health determinants, a similar column should be included within table 13-16, whereby the potential impacts of community receptors are identified.</p> <p>While it would be expected that due to the scale and nature of development that a full HIA would be provided to accompany the DCO application, it is noted that such a report will not be produced, and this approach has been agreed with stakeholder.</p>	<p>Noted.</p> <p>The community assessment is a one-stage process where the effect on community receptors as a result of an impact from the Proposed Development is assessed. Health assessment is a two-stage process where the impact on the health determinant is initially assessed and then the health effect resulting from that impact is assessed. It would therefore not be applicable to add another column to Table 13.16 in Chapter 13 Health and Community in the ES [TR020001/APP/5.01].</p> <p>Stakeholders have agreed that an additional Health Impact Assessment (HIA) is not required as the methodology used is already akin to that required for a full HIA.</p>	No
	Conclusions	B	The Chapter is well presented and logical in structure.	Noted.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>A clear methodology is presented, with additional detail set out in Appendix 13.4.</p> <p>The assessment is supported by an evidence base, set out in Appendix 13.5.</p> <p>The assessment would benefit with clarifying how the issues raised by stakeholders have been addressed within the assessment.</p>	<p>Table 13.7 in Chapter 13 Health and Community in the ES [TR020001/APP/5.01] describes how the issues raised by stakeholders have been addressed within the assessment.</p>	
	Presentation (including Figures and Appendices)	B	<p>PEIR/NTS- Both the PEIR and NTS are well presented and benefit from sub-heading to help the reader follow the topic assessments.</p> <p>Figures - The defined study areas within Figure 13-1 could be outlined more clearly.</p> <p>Cross-references to Figures produced by other relevant topics showing the spatial distribution of impacts, if available, would be beneficial.</p>	<p>Noted. Figure 13-1 has been updated in the ES Figures [TR020001/APP/5.03] to provide a clearer outline.</p> <p>Cross references to the figures where impacts are mapped by the relevant topics have been included in Chapter 13 Health and Community in the ES [TR020001/APP/5.01], where available.</p>	Yes

B12 Agricultural land and farm holdings review checklist and summary

Note: 'Ref.' is to tables 2-25 and 2-26 of the WSP on behalf of host authorities response.

Table B12.1: Agricultural Land & Farm Holdings

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	<p>Yes. Relevant local policies have been considered. There are no relevant regional policies.</p> <p>The National Planning Policy Framework (NPPF) was updated in 20 July 2021 but no changes are considered to affect the chapter.</p> <p>No topics to consider in the proposed update of the Airports National Policy Statement (September 2021) are relevant to this chapter.</p>	Noted.	No
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	<p>Yes, to Refs 2.1 and 2.2 of this review table but there are number of inconsistencies in the reporting of data within Volume 1 and the technical appendices, which are listed at the end of this review table. ALC data is not considered to expire. Soil nutrient analysis may be beneficial at a later stage to inform soil reuse.</p>	<p>Consistencies in the reporting of baseline data between the chapter and appendices have been addressed at Section 6.7 in Chapter 6 Agriculture in the ES [TR020001/APP/5.01].</p>	Yes
2.2	Do the data collection methods follow relevant guidance?		None.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.3	Is the study area identified appropriately?	A	Described appropriately but figures which collate the various stages of ALC and soil resource surveys would be beneficial.	These Figures have been included within the ES (refer to Figure 6.1 [TR020001/APP/5.03]).	Yes
2.4	Have all the resources/receptors been considered?	A	None.	Noted.	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	C	<p>Unclear selected methodology, Table 6.7 describing the magnitude of impact criteria for agricultural land quality mixes magnitude of impact and sensitivity of receptor (e.g., 20ha or more of best and most versatile (BMV) land, 50ha or more of lower quality land). The sensitivity of agricultural land is again set out in Table 6.10.</p> <p>By mixing magnitude and sensitivity, Table 6.7 defines 20ha of Subgrade 3a as high magnitude but 2000ha of Subgrade 3b as medium magnitude of impact.</p> <p>The inclusion of “or change is likely to cause a direct adverse or permanent or long term (more than 10 years) impact on the integrity/value of the receptor” under the definition high magnitude of impact means that any area of agricultural land of any quality that is removed from agricultural use</p>	<p>The significance criteria is described at Table 6.13 in Chapter 6 Agriculture of the ES [TR020001/APP/5.01] and was agreed by PINS during EIA Scoping and is similar to that set out in the Third Edition of the EIA Handbook (ICE Publications) published in December 2019 and the revised Highways England (HE) Design Manual for Road and Bridges (Vol 11, Section 3, Part 6), replaced by LA109 ‘Geology and soils’ in October 2019.</p> <p>The methodology is described at Table 6.5 in Chapter 6 Agriculture of the ES [TR020001/APP/5.01] and was agreed by PINS during EIA Scoping.</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>and production for the proposed development will be a high magnitude of impact. This cannot be the intention of the criteria, as it makes all other definitions redundant.</p> <p>Non-agricultural land is included within the definition of very low magnitude on agricultural land quality – but clearly non-agricultural land is not an agricultural land receptor.</p> <p>Table 6.8: the nature of the impact on soil resources is unspecified and unclear. Magnitude is related to a volume of soil but the impact that is being considered on that specified volume or functions the soil has, is not detailed; for example, do the criteria refer to the volumes of soil on site, the volumes that will be handled/disturbed or the volumes that will be damaged? The implication from the later assessment is that it is the last of these, as the magnitude of impact reduces from high (50,000m³ of soil) to very low (12,499m³ or less) with the implementation of the soil management plan as mitigation. This reduces the ability to capture beneficial effects to soil resources which would be associated with ceasing arable practices and providing ecological mitigation areas, which is of relevance to the addition in response to the statutory consultation (1.2.5 Part B</p>		

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>'sustainability at the heart of the development').</p> <p>Table 6.10: sensitivity criteria are set out for non-agricultural land (in very low) but the receptor is agricultural land. Aside from being non-agricultural, the table implies that woodland has very low value as a land use. The inclusion of 42% of all agricultural land in England as a receptor of the highest sensitivity appears exaggerated.</p> <p>Table 6.11 sets out that the sensitivity of soil is related to their availability for reuse and resilience to handling. The categorisation of soils that are unsuitable for reuse (e.g., made ground, contaminated land) as being very low sensitivity therefore seems perverse.</p> <p>The medium sensitivity soils should include the lower % clay bracket (i.e., the definition should be 18-27% rather than <27%), with <27% in the 'low'.</p> <p>Table 6.12 does not include a very low category. Many of the criteria in Table 6.12 relate to land uses rather than agricultural holdings. It is not clear why tenanted farm holdings or large agricultural holdings should be categorised as low sensitivity, or marginal holdings as high sensitivity. Given that the affected farm is a large, tenanted holding, there is a sense of prejudgement with these criteria.</p>		

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.6	Has there been consultation with the relevant statutory bodies?	A	Natural England was consulted as part of the Scoping Opinion. No further consultation has taken place with statutory bodies. Natural England is the only statutory body to be considered relevant for this assessment.	Noted.	No
2.7	Is the future baseline scenario adequately described?	B	There is no future baseline section but there is some consideration of future baseline in Section 6.12, In-combination climate change impacts. It is expected that the ES will include the consideration of the future baseline scenario in the Baseline section.	Section 6.7 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] , describes the future baseline scenario. Chapter 6, Section 6.12 of the ES provides an assessment of in-combination climate change effect.	Yes
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	A	None.	Noted.	No
2.9	Which are the key receptors for the local authorities?	A	Best and most versatile agricultural land; soil resources. Farm holding excluded as only tenant farmer has not renewed the tenancy.	Noted.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B	The PEIR refers to the implementation of a Soil Management Plan (SMP) but lacks detail as to the measures within this plan to avoid, reduce or offset significant adverse effects. Further details should be provided in the ES.	Section 6.8 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] outlines the approach adopted within the Outline Soil Management Plan (SMP) provided at Appendix 6.6 of the ES.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B	There is insufficient detail provided on the mitigation measures to assess their appropriateness. Further details should be provided in the ES.	Section 6.8 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] describes the embedded and good practice mitigation measures incorporated into the Proposed Development design or assumed to be in place before assessment. The Outline SMP (Appendix 6.6 of the ES [TR020001/APP/5.02]) is to be developed to final by the appointed contractor as part of the CoCP (Appendix 4.2 of the ES [TR020001/APP/5.02]) as required by the Draft DCO [TR020001/APP/2.01] .	Yes
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	B	The PEIR indicates that the SMP will be delivered as part of the Code of Construction Practice, but no further details are provided. Para 15.14.2 indicates that the outline SMP will be developed further. Further details should be provided in the ES.	The Outline SMP , to be developed to final by the appointed contractor as part of the CoCP, is provided at Appendix 6.6 of the ES [TR020001/APP/5.02] .	Yes
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	No monitoring is proposed. Monitoring of the mitigation measures proposed for the soil resource would be expected, (i.e., monitoring of stockpile conditions but this should be detailed in the final SMP). As noted above full details of the SMP should be provided in the ES.	A qualified soil scientist will be appointed to implement the Outline SMP. The Outline SMP (Appendix 6.6 of the ES [TR020001/APP/5.02]) , is to be developed by the appointed contractor as part of the CoCP	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				(Appendix 4.2 of the ES [TR020001/APP/5.02]).	
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	Further details could be provided of the outline SMP and how measures will mitigate the significant adverse effect on soil resources identified.	The Outline SMP (Appendix 6.6 of the ES [TR020001/APP/5.02]) is to be developed to final by the appointed contractor as part of the CoCP (Appendix 4.2 of the ES [TR020001/APP/5.02]) .	Yes
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	None. 6.5.19 describes what is considered as 'significant'.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	C	<p>The assessment indicates that the proposed development will have a high magnitude of impact on 250,000m³ of high sensitivity topsoil's and subsoils, which will give rise to a major adverse effect. Implementing the SMP reduces the magnitude of impact to very low and gives rise to a minor adverse and not significant effect.</p> <p>However, the criteria for the magnitude of impact on soils refer only to the volume of soil affected, and a very low magnitude of impact would affect 12,499m³ or less of soil. It is not clear how this assessment has been reached when it is clear that the remaining 237,501m³ of high sensitivity soils would still be affected by the proposed development.</p>	The 'magnitude' and 'sensitivity' criteria detailed at Section 6.5 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] are appropriate to identify potential major adverse effects on soil resources, and mitigation achieved by implementing an the SMP (an Outline SMP is available at Appendix 6.6 of the ES[TR020001/APP/5.02]) and will be developed to final by the appointed contractor as part of the CoCP (Appendix 4.2 of the ES [TR020001/APP/5.02]) will reuse the amount of soil required for landscaping purposes. There will be a residual moderate effect (significant) due to the permanent	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				loss of some soil which is surplus to requirement as part of the landscape scheme.	
4.3	Are the methods for evaluating significance clearly defined/?	C	No specific reference is made to define the level of effect that is considered significant, but it is apparent from the text that moderate or greater effects are considered significant. Further details should be provided in the ES.	Section 6.5 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] defines the level of effect that is considered significant.	Yes
4.4	Do the assessment methods used follow relevant guidance?	B	Yes, follow established practice but no reference can be provided to methodology guidance.	Reference to methodology guidance is included in Chapter 6 Agriculture of the ES [TR020001/APP/5.01] .	Yes
4.5	Have potential effects been considered both during construction and operation?	A	Operational effects on agricultural land quality and soil resources have been scoped out, which has been accepted in the Scoping Opinion.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	B	Magnitude, duration and significance of impacts have been considered but there are deficiencies on how the assessment criteria has been followed (see comments under 4.2 and 4.58). There is no discussion on probability and reversibility, nor potential beneficial effects to soil health by reducing agricultural practices.	Reversibility is considered as part of the assessment provided at Section 6.9 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] . Potential benefits to soil health are considered as part of Section 6.8 Chapter 6 Agriculture of the ES [TR020001/APP/5.01] . Operational effects on agricultural land quality and soil resources have been scoped out of the assessment as agreed with PINS.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	B	Significant effects are identified; no justification given for the significance decision. Further details should be provided in the ES.	The assessment of effects provided at Section 6.9 Chapter 6 Agriculture of the ES [TR020001/APP/5.01] identifies and describes with justification the significance decision.	Yes
4.8	Are the residual significant effects clearly stated?	B	Yes, but the methodology for arriving at the residual effect on soil resources is not clear and does not follow the assessment criteria.	Residual effects are clearly stated at Section 6.11 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] .	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	N/A	This assessment will follow in the ES.	A cumulative effects assessment is presented within Chapter 21 in combination and Cumulative Effects of the ES [TR020001/APP/5.01] .	Yes
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	C	Little reference is made to the detailed design of the scheme in the assessment.	A reasonable worst case, as described in Chapter 5 Approach to the Assessment of the ES [TR020001/APP/5.01] , is assumed in the assessment of effects provided at Section 6.9 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] .	No
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	Yes.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	A summary is provided in Table 6.17 but there is no accompanying text, and no conclusions reached.	Table 6.17 in Chapter 6 Agriculture of the ES [TR020001/APP/5.01] provides a	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				summary of the identified impacts, mitigation and likely effects of the Proposed Development. The assessment of effects provided at Section 6.9 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] identifies and describes with justification the conclusion on effect and significance.	
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Yes, Table 6.17.	Noted.	No
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	C	The assessment of effects on soil resources is unclear. The criteria setting the sensitivity of farm holdings could give the impression of being pre-determined if they remain unexplained or unsubstantiated.	The assessment of effects provided at Section 6.9 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] identifies and describes with justification the conclusion on effect and significance.	Yes
6.2	Is the PEIR readable to the audience for which it is intended?	A	Yes.	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	Yes.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	Yes.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	A	Yes. However, a figure which displays the collated ALC grades would be beneficial.	This figure is included in the ES (refer to Figure 6.1 [TR020001/APP/5.03]).	Yes
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	Yes.	Noted.	No
Conclusion					
	Legislation, Policy and Guidance	A	None.	Noted.	No
	Baseline Information	B	Inconsistencies in the reporting of baseline data between Volume 1 and the appendices need to be checked and resolved. No new data required.	Inconsistencies in the reporting of baseline data between the chapter and appendices have been addressed at Section 6.7 in Chapter 6 Agriculture of the ES [TR020001/APP/5.01] .	Yes
	Mitigation, Enhancement and Monitoring	B	Insufficient details provided on mitigation measures.	Section 6.8 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] describes the embedded and good practice mitigation measures incorporated into the Proposed Development design or assumed to be in place before assessment. An Outline SMP (Appendix 6.6 of the ES [TR020001/APP/5.02]) is to be developed to final by the appointed contractor as part of the	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				CoCP (Appendix 4.2 of the ES [TR020001/APP/5.02]).	
	Assessment of Significant Effects	C	The criteria for identifying the magnitude of impact for agricultural land and soils need reviewing and amending. The sensitivity criteria for agricultural land, soils and farm holdings need reviewing, amending or further clarification. Significance needs to be defined. The application of the criteria to the assessment on soil resources is unclear. Beneficial effects on soil health to be considered.	Refer to responses at 4.2 and 4.8 respectively. Section 6.5 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] defines the level of effect that is considered significant.	No
	Conclusions	B	Effects are adequately summarised (except for any beneficial effects on soil health to be considered). However, no conclusions reached.	Residual effects are clearly stated at Section 6.11 of Chapter 6 Agriculture of the ES [TR020001/APP/5.01] .	No
	Presentation (including Figures and Appendices)	A	None	Noted.	No

B13 Biodiversity review checklist and summary

Note: 'Ref.' is to tables 2-27 and 2-28 of the WSP on behalf of host authorities response.

Table B13.1: Biodiversity

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	Chapter 8 lists all appropriate legislation and policy relevant to biodiversity including the Airports NPS. Chapter 8 includes a breakdown of NPS sections relating to biodiversity and how it is addressed in the PEIR (Table 16-1). The chapter has been updated to provide an appropriate overview of legislation and policy and how they are addressed in the PEIR. The guidance referred to within Chapter 8 has also been subject to an update and is considered appropriate. Guidance documents on specific ecological receptors are not listed; rather they are detailed in Appendix 8.1.	Noted.	No
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	All methodologies are fully described in Appendix 8-1 rather than the chapter itself. This is considered acceptable.	Noted.	No
2.2	Do the data collection methods follow relevant guidance?	C	Overall, full provision of appropriate methodologies is given in Appendix 8-1. As a general comment, the final section of each chapter within 8.1 is titled 'Conclusions and recommendations'. In practice, neither	The title 'Conclusions and Recommendations' is consistent with the language and structure used throughout the ES. This section includes recommendations	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>are provided rather a summary of results is given.</p> <p>Many surveys have been repeated since 2019 and are summarised in Table 8.8 of Chapter 8. Some surveys however have not been repeated, e.g., hazel Dormouse, Water Vole, wintering birds, reptiles and Red Kite, Barn Owl. Little justification is given for these and is often limited to '<i>This survey was not repeated in 2021 as results from 2019 were still considered valid at this time</i>'. Improved justification should be added in appropriate sections of Chapter 8 and Appendix 8.1 and should refer to CIEEM guidance on data validity (CIEEM 2019) in addition to any agreement with consultees. It is unclear as to whether there will be any licencing need with respect to biodiversity features; however, should there be then again clear, justified and contemporary data will be a requirement. It is noted that for bats, static detector surveys have been undertaken in 2021 but have not been reported in the PEIR in favour of waiting until the ES. The various bats surveys cover a prolonged time period between 2016 and 2021. It is requested that it will be a priority to document an agreement of the scope and validity of these surveys with consultees to ensure there are no data gaps within the ES. No recommendations are provided on this matter in section 5.4.</p> <p>Bird surveys were subject to a repeat survey in 2021. Again, survey visits were low in number and do not meet standard guidelines</p>	<p>in terms of licence requirements and further surveys.</p> <p>An updated badger survey, wintering bird survey, bat static survey, otter and water vole survey, is included within the baseline.</p> <p>Additionally, a walkover survey was undertaken during the summer of 2022 to determine if there were any significant habitat changes, which in turn may affect the validity of historic survey data. CIEEM guidance gives typical data ages but does state this should always be 'subject to an assessment by a professional ecologist'. No significant changes to the habitats were noted. Scope of surveys were discussed within TWGs 1, 2 and 4. Consultation on the validity of survey data has been undertaken in the most recent TWGs 5 and 6. It was noted that there has been repeated survey effort and while some surveys have not been repeated since 2019, there was generally agreement on the validity of the baseline data to inform Chapter 8 Biodiversity of the ES [TR020001/APP/5.01], while acknowledging that preconstruction surveys are recommended.</p> <p>It is acknowledged preconstruction surveys may be needed for some Natural England licencing</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>(Bird Survey & Assessment Steering Group (2021). The 2021 surveys also finished in early June so missing several weeks of the breeding season. It is also noted that the reference used to guide bird species on Red and Amber lists is out of date and should refer to Stanbury et al (2021). This will likely require a re-evaluation of the breeding bird community present.</p> <p>The definition of a breeding territory is set as an unrealistically high bar – i.e., presence in same vicinity in three or more occasions when only 3 post-dawn surveys were undertaken. It is considered that this is likely to lead to underestimation of territories present. This has not been subject to an update since 2019. A full overview of Barn Owl results through the stages of survey is not provided,</p> <p>Amphibians – There has been an update to the overview of GCN and it is now more understandable. There are however significant limitations listed; it is requested that it is highlighted where and how this has been addressed through consultation.</p>	<p>requirements (some of which won't be needed until later stages of consultation).</p> <p>Breeding bird surveys were undertaken before the Bird Survey & Assessment Steering Group. (2021), was fully published. In combination the two survey years are considered sufficient to provide the baseline information to inform the assessment within Chapter 8 Biodiversity of the ES [TR020001/APP/5.01]. The Red and Amber lists have been updated and now refer to Stanbury et al (2021).</p> <p>The definition of territories has been kept consistent throughout to enable comparison of results from different survey years. The barn owl survey results from 2019 have been incorporated into the breeding bird section of Ecology Baseline Report in Appendix 8.1 of the ES [TR020001/APP/5.02]. The methodology, dates and a summary of results provided. Preconstruction surveys will be undertaken should the Proposed Development be granted consent.</p> <p>Reptile and amphibian surveys have not been updated. While there are limitations with the surveys, this is often linked to the poor suitability of these ponds for amphibians.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				These surveys have been repeated and it is acknowledged that preconstruction surveys will be undertaken should the Proposed Development be granted consent.	
2.3	Is the study area identified appropriately?	B	<p>Survey areas and Zols for each ecological receptor have now been summarised in Tables 8.6 and 8.8 and are considered appropriate.</p> <p>Study areas for designated sites are detailed in paragraphs 8.3.5, 8.7.5, 8.7.6 and 8.7.9 of Chapter 8. These are now considered appropriate. It is noted that while explicating, mention is made in the legislation section on the UKs exit from the EU – there is no explanation given on the implications of ‘internationally’ designated sites and the National Site Network.</p> <p>Study areas for ecological receptors are also summarised in paragraph 8.3.5. In this case however there does seem to be some continued confusion between study and survey areas and a defined Zol. It is suggested that these three terms are revisited to ensure clarity.</p>	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes further clarification on the implications of internationally designated sites and the National Site Network following the UK’s exit from the EU.</p> <p>The PEIR 2022 chapter included an update to the definitions of the study areas, survey areas and a defined Zone of Influence (Zol). Chapter 8 Biodiversity within the ES has been updated and sought to provide further clarification where appropriate.</p> <p>The ZOI for the Proposed Development has been increased from 1.5km to 2km as a result of the air quality assessment. The 1.5km previously used was the maximum ZOI for a mobile ecological receptor, in this case barn owl/red kite, that could reasonably be considered to be impacted by the Proposed Development. However, the detailed air quality assessment has reported some impacts on locally designated ecological sites,</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>therefore, the ZOI has been extended to the non-statutory designated nature conservation sites study area of 2km from the Main Application Site.</p> <p>This is a result of air quality effects on ecological sites only which employs traffic data and is therefore inherently cumulative.</p>	
2.4	Have all the resources/receptors been considered?	A	All relevant biodiversity features have been identified with surveys completed or planned.	Noted.	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	B	<p>Table 8.9 summarises the definition of terms for nature conservation value. The examples given under each category are not all encompassing but are appropriate. The County / district criteria definition is a little confusing as it is stated that also includes 'regional'. There are therefore 3 scales incorporated into this category. It is therefore recommended that paragraph 8.5.11 is amended to ensure clarity on what actually has been applied and Table 8.9 updated to show exactly what scale has been applied (i.e., if regional has really been incorporated then it will be the largest scale and requires definition).</p> <p>The definitions of receptor sensitivity now refer to Chapter 5 of the PEIR. It remains unclear on how sensitivity is applied within the assessment, however. It is noted that in Table 8.10, which details how significance is classified, sensitivity is not referred to (unlike value and magnitude).</p>	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the definitions and use of the required terms where appropriate, including calcification on determining the significance and values and the geographical values within Table 8.9.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			Additionally, paragraph 8.5.18 refers to the various factors used to inform the importance of each receptor. It remains unclear how this is applied in determining significance and how this differs from 'value'. It is confusing that the same factors are used to determine magnitude (when magnitude is listed as one of the factors in the first place).		
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>Appropriate consultation has been undertaken with relevant statutory bodies including the set-up of a Biodiversity Technical Working Group. A summary of the discussions is provided in Table 8.7. However, detail on how the TWG meetings has informed Chapter 8 is still scant. It is also noted that the last TWG was on 18/02/2020. It is unclear why no further meetings have been undertaken and documented – key topics would have been the updated surveys and adequacy of surveys that were not updated since 2019 (see Ref. 2.2 above). The final meeting did include Natural England who were unable to attend previously. Some agreements are noted but these require further detail.</p> <p>Main issues from the Scoping Opinion and how they are addressed in the Chapter are detailed in Table 8.5. The table has been updated to provide details on where aspects are addressed in the PEIR.</p>	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on topics agreed where appropriate.</p> <p>The TWGs were paused while the project was under review as a result of the pandemic following the meeting on the 18 February 2020. These meetings were revived in June 2022 and have continued with a further meeting with Natural England. Summaries of these meeting are provided in Section 8.4 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01].</p>	Yes
2.7	Is the future baseline scenario adequately described?	B	A future baseline section is now presented in Section 8.7 of Chapter 8. While again it would not be a significant constraint to wait for the final ES, it is suggested that the future baseline section is expanded to include	Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes further detail where and if appropriate, including on the future	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			discussion on potential baseline population trends of the ecological receptors assessed in Chapter 8. The text as it stands does not develop that narrative.	baseline and potential population trends.	
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	C	Section 8.6 details assumptions and limitations with the reader referred to the Ecological Baseline Appendix (8.1) for all limitations with respect to surveys including difficulties with access. There is no discussion made on the adequacy of the age of survey data. Considering the wide variation across ecological surveys this is an omission.	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] and the Ecological Baseline report Appendix 8.1 of the ES [TR020001/APP/5.02] includes further detail where and if appropriate.</p> <p>Survey data is considered sufficient to inform the assessment made within the ES. Relevant surveys were updated (refer to response in 2.2 above), and a walkover survey was undertaken during the summer of 2022 to determine if there were any significant habitat changes, which in turn may affect the validity of historic survey data. CIEEM guidance gives typical data ages but does state this should always be 'subject to an assessment by a professional ecologist'. No significant changes to the habitats were noted.</p> <p>Updated surveys and the age of data has been discussed with stakeholders in the most recent TWG, no objections were raised regarding the age of survey data. It was noted that there has been</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				repeated survey effort and while some surveys have not been repeated since 2019, there was generally agreement on the validity of the baseline data to inform the ES [TR020001/APP/5.01] , while acknowledging that preconstruction surveys are recommended.	
2.9	Which are the key receptors for the local authorities?	A	<p>Section 8.7 provides an overview of key ecological receptors. The Scoping Opinion recognises CWS, hazel dormouse and great crested newts which are all addressed in the chapter. The chapter has been updated to include reference to bird strike and air quality effects.</p> <p>Feedback received through this review has highlighted the relatively low ecological impacts but concerns over scale of enhancements / net gain and bird strike.</p>	<p>Acknowledged as accepted in part.</p> <p>Bird Strike Risk Assessment in Appendix 8.4 and Biodiversity Net Gain Report (BNG) in Appendix 8.5 of the ES [TR020001/APP/5.02] discusses the scale of enhancements and the bird strike risk as appropriate.</p> <p>The landscape design for the Proposed Development, including habitat creation measures, has taken account of the potential to increase bird strike risk and been designed accordingly.</p>	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B	Detailed embedded mitigation and 'good practice' measures are provided in section 8.8.	Noted.	No
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B	Further mitigation offset loss of habitats / species is highlighted as being related to habitat creation and management measures in section 8.11. These measures are part of	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity of the ES [TR020001/APP/5.01] and the BNG</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			the 'net gain strategy' in Figures 14.11.-14.13. It is difficult to quantify / relate judgements made on significance of impacts after mitigation is applied.	Report in Appendix 8.5 of the ES [TR020001/APP/5.02] include further detail and clarification where appropriate. Significance of impacts after mitigation is discussed in sections 8.11 and 8.14 of Chapter 8 Biodiversity of the ES [TR020001/APP/5.01] .	
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	A	The chapter assumes the production of a draft CoCP Some additional mitigation measures refer to the Draft LBMP (Appendix 8.2). In the latter document responsibilities are outlined.	Noted.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	A monitoring section is now provided in Chapter 8 at Section 8.13. This section refers to the Draft LBMP (Appendix 8.2). This section does however read like a list of bullet points and could do with editing to aid the reader as to what it is trying to convey.	Acknowledged as accepted in part. Chapter 8 Biodiversity of the ES [TR020001/APP/5.01] and the Outline Landscape and Biodiversity Management Plan (LBMP) in Appendix 8.2 of the ES [TR020001/APP/5.02] include further detail and clarification of monitoring requirements where appropriate as was intended for Chapter 8 Biodiversity and Outline LBMP . Monitoring is also discussed in the five Mitigation Strategies Appendices 8.6 to 8.10 of the ES [TR020001/APP/5.02] .	Yes
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	The mitigation measures (embedded and actual) are broadly appropriate at this preliminary stage, but it is expected that the final ES will fully explore their adequacy to	Acknowledged as accepted in part. Chapter 8 Biodiversity of the ES [TR020001/APP/5.01] and the	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			reduce adverse effects. There is a distinct focus on mitigation 'time lag' within the assessment of residual effects. It is expected that this would be explored through the TWG to reach agreements for the final ES.	Outline Landscape and Biodiversity Management Plan (LBMP) in Appendix 8.2 of the ES [TR020001/APP/5.02] include further detail and clarification on the mitigation measures where appropriate. Mitigation is also discussed in the five Mitigation Strategies Appendices 8.6 to 8.10 of the ES [TR020001/APP/5.02] . Mitigation has and will continue to be discussed as a topic within the TWG meetings and with Natural England.	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	B	The chapter presents an overview of characterisation of effects on biodiversity.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	C	The methodology for determining magnitude is touched upon in both the determination of importance and determination of significant effect sections. This is somewhat confusing. As stated above paragraphs 8.5.1.7 and 8.5.18 invite further confusion as to how the term 'magnitude' is used. Although it is detailed to a certain degree in Table 8.10 it is suggested that the bullets in 8.5.17 are expanded to add clarity on how the criteria are applied.	Acknowledged as accepted in part. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the definitions and use of the required terms, including magnitude, where appropriate, with expansion of the bullet points in the previous 8.5.17.	Yes
4.3	Are the methods for evaluating significance clearly defined/?	B	The methods for evaluating significance are described in Table 8.10. While the criteria are broadly appropriate it is stated that the table	Acknowledged as accepted in part.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			provides a translation summary of 'how the classification of significance has been interpreted for consistency with CIEEM EclA guidance' – this is not achieved in the table.	<p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the definitions and use of the required terms where appropriate.</p> <p>The assessment methodology follows the principles of the CIEEM guidance, but also follows the approach adopted across the chapters within the ES [TR020001/APP/5.01], additional clarification has been provided on how these relate in section 8.5 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01].</p>	
4.4	Do the assessment methods used follow relevant guidance?	B	The chapter states that CIEEM methods for determining ecological value and significant effects are 'the basis for the assessment. Table 8.10 provides a 'translation' summary of how the classification of significance has been interpreted for consistency with CIEEM. This however isn't completely the case – CIEEM methodology focuses on whether effects are significant an any geographical scale of importance. While the definitions in Table 8.10 are not contested as being in general suitable to inform the assessment, the stated 'translations' has not been achieved.	<p>Acknowledged as accepted in part.</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the definitions and use of the required terms where appropriate.</p> <p>The assessment methodology follows the principles of the CIEEM guidance, but also follows the approach adopted across the chapters within the ES [TR020001/APP/5.01], additional clarification has been provided on how these relate in section 8.5 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01].</p>	Yes
4.5	Have potential effects been considered both during construction and operation?	A	Both operation and construction are considered in the Chapter. The chapter has	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			provided an update to represent the complex phases of the development.		
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	C	The assessment quotes these factors as being used to inform judgements. However, how these are quantified in the assessment is unclear. Taking the first example of Wigmore Park CWS in Phase1, the impact is detailed as of a high magnitude. How this is determined is unclear while duration is specified, probability and reversibility are not.	Acknowledged as accepted in part. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the definitions and use of the required terms where appropriate.	Yes
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	B	Notwithstanding the issue of aligning with CIEEM the significance judgements are in general justified in relation to Table 8.10. For many judgments it is apparent that the duration required for planting to reduce effects is critical. It is therefore suggested that short-, medium- and long-term impacts are quantified in Table 8.10.	Acknowledged as accepted in part. Duration is specified such as for habitats within Table 8.17 where appropriate, but short/medium/long term differs for receptor types so would be difficult to generalise and define in Table 8.10 for all receptors.	No
4.8	Are the residual significant effects clearly stated?	B	There is a clear table presented on residual effects.	Noted.	No
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	C	While inter topic effects are dealt with in some degree in Chapter 8 these are not clearly signposted. Cumulative effects have been addressed in Chapter 21 rather than Chapter 8 itself. Chapter 21 addresses the cumulative assessment through an 'aspect level' approach rather than addressing projects considered cumulatively in the first instance. Table 21.12 is therefore difficult to navigate.	Signposting and cross referencing to relevant inter topic effects is included within Chapter 8 Biodiversity of the ES [TR020001/APP/5.01] where appropriate. Cumulative effects are dealt with within Chapter 21 In-Combination and Cumulative Effects Assessment of the ES [TR020001/APP/5.01] . Please refer to the response to Ref 2.1 in Table B17 regarding the 'aspect level approach'.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	No specific uncertainties are detailed at this stage although it is considered that for purposes of PEIR this is acceptable. It is expected however that these would be fully described in the ES. Uncertainties involved in the provision of the mitigation / enhancement proposals should be identified and in the ES.	Noted. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes details of uncertainties of the mitigation where appropriate.	Yes
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	The Scoping Opinion has been considered with headline issues summarised and readers are directed to sections of the chapter which address main issues raised by PINS. Issues raised in the scoping from other consultees have not been considered. It is expected that the ES will explain how the scoping opinion has been taken into consideration in full.	Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes appropriate responses to the Scoping Opinion. Full responses to comments from all consultees are included within the Scoping Opinion and Scoping report [TR020001/APP/5.05] .	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	No concluding statement is given. The reader is directed to the table showing a summary of the preliminary assessment only. A section is given on completing the assessment.	Acknowledged as accepted in part. The chapter follows the ES chapter template applied across all topic areas. A short summary has been provided ahead of Table 8.17 in section 8.14 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] .	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	B	Table 8.16 showing a summary of the preliminary assessment is comprehensive. As detailed previously it would benefit from a keyed description of factors characterising the impacts along with magnitude.	Acknowledged as accepted in part. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes clarification on the descriptions and	Yes

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	Aspect being reviewed	WSP code	Comments		
				definitions of the required terms where appropriate.	
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	The chapter presents a balanced view of biodiversity issues. It is not considered to be comprehensive while understanding that it is by very definition a preliminary report.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	A	The chapter is not overly complex and details all the expected issues. Text is generally readable and can be understood by non-specialists.	Noted.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	The NTS with respect to biodiversity is clear and readable.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	The NTS does summarise the findings of the Biodiversity chapter.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	A	The figures presented in Appendix 2 are appropriate and provide a sufficient overview of information to support the Biodiversity Chapter.	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	Appendix 8-1 provides comprehensive baseline reports on the surveys undertaken. While splitting information over the PEIR and appendices is standard practice, the ES chapter on Biodiversity should provide a standalone function and contain the core relevant information to support an impact assessment.	Noted. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] continues to draw on the information provided within the Ecological Baseline report in Appendix 8.1 of the ES [TR020001/APP/5.02] and signpost where appropriate.	No
Conclusion					

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
	Legislation, Policy and Guidance	A	The update to Chapter 8 is appropriate. General professional ecological guidance is scattered across the baseline reports in Appendix 8-1.	Noted.	No
	Baseline Information	C	<p>While several updates have been made on the baseline information relied upon, weaknesses remain. This includes again on the use of study area/ Zoi definition and in particular the justification on the validity of the data collected.</p> <p>Consultation records are limited, and the views of LPAs and NE are not represented. A more effective overview will give increased confidence in the direction of travel of the assessment.</p> <p>Future baseline is very limited – it is reiterated that signposting how this will be presented in the final ES would be needed. The section on completing the assessment is brief and does not provide notable assistance in how a full comprehensive ES will be brought together.</p>	<p>The PEIR 2022 chapter included an update to the definitions of the study areas, survey areas and a defined Zol. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] has sought to provide further clarification on the use of study area/Zol and the validity of data collected and has increased from 1.5km to 2km the Zol for the Proposed Development has been as a result of the air quality assessment. The 1.5km previously used was the maximum Zol for a mobile ecological receptor, in this case barn owl/red kite, that could reasonably be considered to be impacted by the Proposed Development. However, the detailed air quality assessment has reported some impacts on locally designated ecological sites, therefore, the Zol has been extended to the non-statutory designated nature conservation sites study area of 2km from the Main Application Site.</p> <p>This is a result of air quality effects on ecological sites only which employs traffic data and is therefore inherently cumulative.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				<p>Consultation on the validity of survey data has been undertaken in the most recent TWGs. It was noted that there has been repeated survey effort and while some surveys have not been repeated since 2019, there was generally agreement on the validity of the baseline data to inform the ES [TR020001/APP/5.01], while acknowledging that preconstruction surveys are recommended.</p> <p>TWG meetings were paused while project was under review as a result of the pandemic and were restarted to discuss the ES in June 2022 along with continuing consultation with Natural England, refer to Table 8.7 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01].</p> <p>Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes further detail on future baseline where and if appropriate, potential population trends.</p>	
	Mitigation, Enhancement and Monitoring	B	<p>The measures presented are broadly appropriate with increased signposting of the CoCP and LBMP.</p> <p>Appropriate engagement should be undertaken with the relevant authorities to agree the proposed mitigation, enhancements, and monitoring strategies / programmes.</p>	<p>Acknowledged as accepted in part.</p> <p>TWG meetings were paused while project was under review as a result of the pandemic and were restarted to discuss the proposed ES in June 2022 along with continuing consultation with Natural England, refer to Table 8.7 of Chapter 8</p>	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				Biodiversity in the ES [TR020001/APP/5.01].	
	Assessment of Significant Effects	B	The assessment methodology has been updated. Little information is provided on how judgements were made in terms of magnitude. While editions of significance are in general terms acceptable how this aligns with CIEEM has not been achieved. Inter topic relationships are not signposted to any degree. Consultees have highlighted these issues – signposting how they are to be addressed in the Biodiversity chapter is required.	Acknowledged as accepted in part. Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] includes further clarification on the definitions and use of the required terms such as magnitude, where appropriate, and already signposted inter topic relationships. The assessment methodology follows the principles of the CIEEM guidance, but also follows the approach adopted across the chapters within the ES [TR020001/APP/5.01] , additional clarification has been provided on how these relate in section 8.5 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] .	Yes
	Conclusions	C	No concluding statement is provided with the findings only presented in the residual effects table. A more authoritative overview of the PEIR findings should be presented in parallel with the ‘completing the assessment’ section.	The chapter follows the ES chapter template applied across all topic areas. A short summary has been provided ahead of Table 8.17 in section 8.14 of Chapter 8 Biodiversity in the ES [TR020001/APP/5.01] .	No
	Presentation (including Figures and Appendices)	B	Figures are broadly appropriate and well presented. Study areas need to be clearly defined (and agreed). Appendices are comprehensive notwithstanding points about methodologies that require further clarity.	Acknowledged as accepted in part. The PEIR 2022 chapter included an update to the definitions of the study areas, survey areas and a defined Zol. Chapter 8 Biodiversity in the ES	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				[TR020001/APP/5.01] has sought to provide further clarification where appropriate.	

B14 LVIA review checklist and summary

Note: ‘Ref.’ is to tables 2-29 and 2-30 of the WSP on behalf of host authorities response.

Table B14.1 Landscape and Visual Impact Assessment

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>The PEIR Vol 1 Section 14.2 refers to legislation, policy and guidance including reference to relevant Supplementary Planning Documents (SPDs), Green Infrastructure Strategies and the Chilterns Area of Outstanding Natural Beauty (AONB) Management Plan and position statement on the setting of the AONBs. These guidance documents, policy documents and strategies should all be referred to in section 14.2 as a cross reference.</p> <p>Reference to ‘Central Bedfordshire Council Local Plan 2035: Pre submission document’ is incorrect as the pre submission version is now out of date. Reference therefore needs updating and policies cross checked and updated accordingly, including any resulting implications actioned in Section 14.7 to 14.10 inclusive.</p> <p>Reference is made in Appendix 14 to Guidelines for Landscape and Visual Impact Assessment, 3rd Edition; specific guidance on airport related development and regulations and local policies of relevance to the project location and these are considered</p>	<p>The legislation, policy and guidance considered in the ES was discussed and agreed with the Landscape and Visual Impact (LVIA) Working Group and is described in Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01].</p> <p>The reference to the ‘Central Bedfordshire Council Local Plan has been updated within Section 14.2 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01].</p> <p>The mitigation proposals and application as a whole takes note of CAP 772. The application is supported by a Bird Strike Risk Assessment in Appendix 8.4 of the ES [TR020001/APP/5.02].</p> <p>Table 14.3 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] identifies how and where relevant local policies have informed the chapter.</p> <p>The approach to considering tranquillity with respect to LVIA</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>appropriate. The applicant should take note of CAP 772 in relation to additional mitigation proposals and the potential need to limit bird strike.</p> <p>Reference is made to tranquillity in accordance with Airport NPS and LI guidance note, and it is stated that tranquillity will be considered as part of the assessment of effects on landscape receptors. However, almost no reference is made to tranquillity in relation to visual receptors. It is expected that the ES will describe and assess tranquillity in relation to visual receptors as well as landscape ones.</p> <p>It is expected that the ES will describe how the relevant local policies have informed the chapter.</p>	<p>receptors has been discussed and agreed with the LVIA Working Group and is explained in the LVIA Methodology in Appendix 14.1 of the ES [TR020001/APP/5.02].</p> <p>Please refer also to response to 2.4 below.</p>	
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	C	<p>As referred to in the scoping opinion from PINS and LPAs, East of England Typologies need to be considered and the Applicant has confirmed that this will be considered in the ES LVIA. They are currently referenced in the PEIR as a source document, but the landscape types are not outlined in the baseline, nor shown on any plan/ Figure. What consideration has been given to these typologies is therefore unclear.</p> <p>The PEIR includes a supportive “Non-EIA Residential Visual Amenity Appraisal” (RVAA) at Appendix 14.8. Within this, the Residential Visual Amenity Threshold has not been defined. There is no explanation as to</p>	<p>Reference to the East of England typologies has been included within Section 14.7 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01].</p> <p>The methodology and Study Area for the Residential Visual Amenity Appraisal (RVAA) was discussed and agreed with the LVIA Working Group and reflects guidance set out in the Landscape Institute Technical Guidance Note 2/19 (Ref 7).</p> <p>It is not considered necessary that this agreed methodology should be amended to define further the</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>the magnitude of change that would trigger the threshold to be met – e.g., ‘blocking the only available view from a property.’</p> <p>PINS / LPAs scoping opinion refers to the need for a Zone of Theoretical Visibility (ZTV). The Applicant has included details in the PEIR as to how the ZTV was prepared. Some further clarification would be helpful:</p> <p>The ZTV appears to use ground height rather than 1.6m viewer height. Will the ZTV be updated to reflect a viewer eye height of 1.6m above ground, as this potentially results in increased visibility than ground level?</p> <p>Why was a 7km radius chosen initially? Explanation as to why the initial study areas were identified, then refined down, should be given. How does land cover/ land use etc affect visibility? A bit more description on how/ why the area was defined & refined would be beneficial. Will a ZTV be generated for the road realignment works to confirm the 250m buffer shown?</p> <p>Will the ZTV consider any mitigation planting? If so, at what heights/ years?</p>	<p>magnitude of change that would trigger the Residential Visual Amenity Threshold.</p> <p>With regards the additional points raised in the review of the Applicant’s 2022 PEIR, please note the following:</p> <ul style="list-style-type: none"> - The ZTV included in the 2022 PEIR and that provided at Figure 14.2 of the ES Figures [TR020001/APP/5.03] assumes an eye height of 1.6m and is based on bare earth (i.e., is not affected by existing land cover / land use). - A 7km radius from the centre of the Application Site was chosen for the ZTV following initial fieldwork that considered visibility to the existing airport buildings from within the surrounding area. The 7km radius from the centre of the Application Site is greater than the 5km from the perimeter of the Main Application Site included within the LVIA study area. The additional coverage was used to confirm the study area extents. The approach to preparing the ZTV was discussed and agreed with the LVIA Working Group. - A ZTV has not been generated for the road realignment works to confirm the 250m buffer. The 250m study area around these elements 	

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				<p>was however discussed and agreed with the LVIA Working Group.</p> <p>- The ZTV does not include mitigation planting. This approach was discussed and agreed with the LVIA Working Group.</p>	
2.2	Do the data collection methods follow relevant guidance?	C	<p>Data collection methods appear to follow guidance although it is not clear if field notes have been made or are available. Appendix 14.1 states that local character assessments were reviewed 'followed by verification in the field' although it is not clear how this verification was done.</p> <p>The methodology, criteria used, study area, data collected, and location of viewpoints have been agreed with the LPAs/Chilterns Conservation Board, although it is noted that photomontage requirements have not been agreed with the Chilterns Conservation Board, who appear only to have been consulted at pre-app stage.</p> <p>The Applicant notes in Appendix 14.1 that Landscape Institute TGN 06/19 para 3.8.3 identifies a Horizontal Field of View (HFOV) of around 39.6° when printed at A3. For reasons stated, a HFOV of 75° has been used. However, when presenting the photography in Appendix 14.6, a number of the images are spread across two pages, such as viewpoint 10A, where the HVOV is given as 150°. This requires further explanation within 14.1. Spreading an image across two pages should generally be avoided. Consideration should be given to</p>	<p>Conditions noted within the field were critically reviewed against the descriptions advised in published character area guidance. In all cases the published guidance was determined to remain relevant, useful, and suitable for the task in hand. It is not considered necessary that field notes confirming this judgement should be made available.</p> <p>The Applicant has sought agreement with CCB regarding these matters as explained in Table 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01]</p> <p>LVIA Methodology in Appendix 14.1 of the ES [TR020001/APP/5.02] has been amended to note that some images are spread across two pages leading to a Horizontal Field of View (HFOV) of 150°. The approach to presenting viewpoint photographs over two pages was discussed and agreed with the LVIA Working Group.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>amending the location arrow (and direction of view) to indicate the full angle and direction of view that the image covers.</p> <p>It is noted that there are some discrepancies between winter and summer photography. Notwithstanding minor differences in location over time, obvious differences such as the presence of the pole in viewpoint 108 should be rectified in the ES with updated photography taken as necessary. Every effort should be made to obtain both winter and summer views for each location for inclusion in the ES.</p> <p>It is noted that the Site visits to inform the baseline review were undertaken between June 2018 and May 2019. It is assumed that the baseline will be revisited for the ES to ensure the baseline descriptions, features and photography accurately represent the current baseline at the time of submission.</p> <p>It is noted that night-time photography is contained as part of Appendix 5.2 and accords with the latest LI guidance issued in September 2019. Reference to lighting effects should be considered within the assessment section of the ES for both landscape and visual receptors and appropriate cross reference made to the findings set out in the Light Obtrusion Assessment.</p> <p>Viewpoint selection considers 'Representative' viewpoints only. Have no</p>	<p>It is not considered necessary for the full angle and direction of view that the image covers to be shown on the location plans. The approach to identifying viewpoint locations was discussed and agreed with the LVIA Working Group.</p> <p>Whilst efforts have been made to ensure viewpoint photography is as accurate as possible, it is not considered necessary that discrepancies between winter and summer photography be rectified or that both winter and summer views for each location be included.</p> <p>Further fieldwork was carried out in June 2022 to ensure baseline descriptions, features and photography accurately reflects the baseline at the time of submission of the application for development consent. The fieldwork revisited all assessment viewpoints and recorded any changes that may be material to the purposes of this application.</p> <p>Commentary on lighting effects is provided at Sections 14.6 and 14.7 Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] and informed judgements advised in the assessment sections of the ES. Cross reference to the Light</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			'Specific' or 'Illustrative' viewpoints been identified or requested by any consultee?	<p>Obtrusion Assessment in Appendix 5.2 of the ES [TR020001/APP/5.02] is provided within the Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] where appropriate.</p> <p>The viewpoints considered in the ES were discussed and agreed with the LVIA Working Group. No consultees requested that any 'Specific' or 'Illustrative' viewpoints be identified.</p>	
2.3	Is the study area identified appropriately?	C	<p>Reference is made in PEIR Vol 1 Section 14.3 and Appendix 14.1 to the study area which covers 5 km and the entirety of any character areas falling partly within it, as well as land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL). It would be beneficial to outline in more detail within section 14.3 how the study area was defined, why the ZTV used a different distance and how the study area was refined down to 5km.</p> <p>Reference is frequently made to land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL). Clarification on this is needed. What is this area and how much of the AONB does it cover? What viewpoints and receptors does this land cover? Given that this area is part of the Study Area it would be helpful to show the extent of this area on a plan, as it does not appear to be graphically shown on any of the Figures.</p>	<p>Section 14.3 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] explains that the study area was defined through a survey of the pattern of existing land use, landform and land cover within the landscape surrounding the Application Site; was informed by ZTV mapping; and was further refined through field survey activities. It is not considered that further explanation of this process or why a different distance was used to prepare the ZTV need be provided.</p> <p>Please refer also to response 2.1 above.</p> <p>Viewpoint Locations 1, 45 and 50, identified on Figure 14.8 of the ES Figures [TR020001/APP/5.03], fall within the Chilterns AONB boundary where aircraft would be below 7,000 ft. (AMSL).</p>	Yes

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			<p>Reference to the Study Area covering the entirety of any character areas falling within it also needs clarification. The Study Area shown in Figure 14.1 is a regular 5km radius from the Site. Figure 14.3 is shown on a different scale and does not cover the entirety of the study area. Which Character areas therefore extend outside the study area boundary, and why is the Study Area not amended to reflect this? Why do a number of the Figures not cover the entire study area?</p> <p>The scoping opinion from Chilterns Conservation Board refers to candidate land for the AONB boundary review and the need to extend the study area. The PEIR includes a sensitivity test of this candidate land at Appendix 14.9. If the study area is to remain at 5km a clear explanation needs to be included in the ES as to why effects on the AONB are deemed insignificant, along with a summary of the sensitivity testing. The land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL) also needs to be identified and justified in relation to the study area boundary.</p> <p>Effects on the AONB should include consideration of aircraft lighting on any dark night skies associated with the AONB. It is noted that the ZTV and study area will be refined throughout the process. Whilst currently discounted, should the study areas for landscape and visual receptors be revisited with different study areas for landscape and visual considered, which then</p>	<p>The area within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL) is relevant to the landscape receptor 'the aesthetic or perceptual characteristics of the landscape within the Chilterns AONB'.</p> <p>The area within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL) is not however relevant to any visual receptors, as its inclusion within the study area relates only to the considering of effects on tranquillity and advice set out in the Civil Aviation Authority's guidance CAP1616.</p> <p>The inclusion of land within affected character areas beyond the 5km envelope reflects guidance provided at paragraph 5.2 of GLVIA3, which advises that the study area:</p> <p><i>"will usually be based on the extent of LCAs likely to be significantly affected either directly or indirectly (but) may also be based on... the ZTV, or a combination of the two."</i></p> <p>Whilst the full extent of these LCAs were considered in undertaking the LVIA (i.e., information contained within published LCA documentation was not wholly discounted if it related to land beyond the 5km extents) some of these LCAs extend an appreciable distance from the Main</p>	

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			<p>home in on a more localised area where appropriate?</p> <p>The Figures all cover different study area extents. It is not clear for example why the Character Areas plan only covers part of the study area, or why the works at Hitchin do not form part of the Study area at all yet are considered to some degree in the Chapter text assessment.</p> <p>Further clarification is needed on the 'study area' (purple dashed line on Figure 14,1) which appears to only relate to the Main Application Site, whilst the highway works contain a 250m 'buffer zone' around them and do not form part of the study area. Is the baseline text and resulting receptors related to the study area only, or do they include the 'buffer zone' areas? No separate discussion on the Hitchin highway works in terms of baseline description or assessment of visual receptors appears to be provided, only impacts on townscape character.</p>	<p>Application Site. In the interest of legibility, it was therefore considered preferable for these extents not to be mapped in Figure 14.1 of the ES Figures [TR020001/APP/5.03], as doing so would reduce legibility. This has been discussed and agreed with the LVIA Working Group.</p> <p>The references in CCB's response to scoping concerning the AONB boundary review and need to extend the study area are made with regard to separate points.</p> <p>A sensitivity test of the potentially expanded AONB based on the 'search area' extents shown in the CCB application is provided in the Chilterns AONB Sensitivity Test in Appendix 14.9 of the ES [TR020001/APP/5.02] to address concerns raised by CCB. This application remains at a relatively early stage however, with the final extents still to be determined. There is accordingly no legal requirement to assess this potential expansion.</p> <p>As is explained above, in accordance with guidance set out at Civil Aviation Authority's guidance CAP1616 for considering effects on tranquillity in National Parks and AONB, the LVIA study area for assessment includes additionally land within the Chilterns AONB where aircraft would be below</p>	

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				<p>7,000 ft. (i.e., the study area does not remain 5km).</p> <p>The judgement in the 2019 PEIR that effects on the AONB were insignificant was determined because of the appreciable distance between the AONB and the Main Application Site; the modest change that can be expected from the Off-Site Highway Works; and the pre-existing presence of aircraft overflying the AONB on the flight paths to be used by the expansion proposals. This assessment however failed to take into consideration certain information concerning flight paths over the AONB and was subsequently amended in the 2022 PEIR, with effects on this receptor assessed as being significant at construction and during the operational phases. The Detailed Landscape Impact Assessment in Appendix 14.4 of the ES [TR020001/APP/5.02] provides further explanation of this judgement.</p> <p>The potential impact of aircraft lighting on dark night skies associated with the AONB has been considered in the assessment of effects on the aesthetic or perceptual characteristics of the landscape within the Chilterns AONB provided at Section 14.9 of Chapter 14 Landscape and Visual of the ES</p>	

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				<p>[TR020001/APP/5.01]. Judgements advised in the assessment however recognise that, in comparison to the effect of the sitewide lighting, aircraft lights are significantly lesser powered, transient, and dynamic, and would therefore be unlikely to have a significant impact on dark skies.</p> <p>The use of differing study areas for landscape and visual receptors was discussed with the LVIA Working Group following feedback from the 2019 statutory consultation and was agreed to be undesirable. It is not considered that any of the changes advised subsequent to the 2019 statutory consultation would necessitate a change of this nature. This view was also affirmed by the LVIA Working Group in discussions held since the 2022 statutory consultation.</p> <p>The LVIA study area detailed at Figure 14.1 of the ES Figures [TR020001/APP/5.03] includes a note explaining that the 'Study area includes also the full extent of any character areas that may be affected within the 5km envelope; land in Hitchin within 250m of works 6o, 6p and 6q; and, for considering effects on tranquillity, additional land within the Chilterns AONB where aircraft would be below 7,000 ft.'</p>	

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				<p>The approach used to explain the study area in the LVIA Figures has been discussed with the LVIA Working Group subsequent to the 2022 statutory consultation and was agreed to be appropriate.</p> <p>Discussions with the LVIA Working Group did however agree that the 250m buffer zones for Work Nos. 6o, 6p and 6q should be shown with a purple dashed line (rather than the pink one applied in the 2022 PEIR information), to make clearer their inclusion within the study area. This change has accordingly been made.</p> <p>Section 14.7 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] provides a further description of the baseline associated with the Hitchin highway works.</p> <p>The potential for visual receptors in Hitchin to experience visual effects was discussed with the LVIA Working Group ahead of the 2022 statutory consultation. It was however agreed at this time that no visual receptors would be likely to experience significant environmental effects as a consequence of these works. No visual receptors in Hitchin have therefore been assessed in the ES.</p>	

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2.4	Have all the resources/receptors been considered?	C	<p>Visual Receptors: Much clearer distinction is needed between the Visual receptors in the study area (which is given only 5 paragraphs of text in the Visual Baseline section) and the type of views they experience. This needs to be rectified within the ES LVIA. Whilst lists of receptors are identified within Section 14.9 for assessment, the type of receptor is not clearly identified. A much stronger section is required in the baseline analysis on the types of visual receptor within the study area, along with numbers and typical duration of views (users of fast roads vs country lanes; users of commercial properties vs visitors to tourist attractions). There is then a clearer link to assigning value and susceptibility. A Visual Receptor Figure that specifically identifies the visual receptor baseline (i.e., location and type of visual receptors within the study area) is needed. The types of receptors should then be cross-referenced with the relevant representative viewpoints that represent the visual receptor types.</p> <p>Landscape receptors: The PEIR LVIA states in Table 14.5 that there is no agreed methodology for assessing the effects of tranquillity but outlines in Appendix 14.1 at 1.5.9 how it is being considered, including positive / negative factors to tranquillity as defined in the South Downs National Park Tranquillity Study; Campaign to Protect Rural England (CPRE) Intrusion Map, review of noise assessment mapping and audible /visual observations in the field. Whilst this approach was agreed with the LVIA working</p>	<p>The 2022 PEIR included only a summary of the effects on visual receptors. Further detail explaining the types of visual receptor and judgements on value and susceptibility is provided in the Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>A visual receptors figure was considered ahead of the 2019 statutory consultation but, because several of these receptors overlap one another, the outcome of that exercise proved illegible. This concern was discussed with the LVIA Working Group subsequent to the 2022 statutory consultation where it was agreed that it was not necessary for a figure to show this.</p> <p>PINS stated in the Scoping Opinion that it was premature to determine the assessment viewpoints in advance of the adoption of the parameters of the scheme design, and advised that they would expect efforts to be made to agree the locations of assessment viewpoints with relevant consultation bodies.</p> <p>Viewpoint locations to be considered within the LVIA were agreed with the LVIA Working Group. The Applicant</p>	Yes

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			<p>group, it does not appear to have been discussed further with PINs or the Chilterns Conservation Board (CCB).</p> <p>It is recommended that representative viewpoints are also agreed with the Chilterns Conservation Board (CCB) to ensure appropriate consideration of receptors in the Chilterns AONB. Figure 14.8 includes viewpoints to the west and one to the north, although it is unclear whether all lie within the AONB. The Chilterns Conservation Board recommended that a ZTV is overlain with the Chiltern’s AONB boundary to assess other viewpoints needed and that the study area should be reassessed once ZTV work has been undertaken. It is not clear whether this review has been done.</p> <p>Tranquillity only appears to be mentioned in relation to landscape receptors, and whilst GLVIA3 provides reference to tranquillity in discussion on landscape value in particular, it also identifies Tranquillity in general aspects to consider for both landscape and visual receptors, (e.g., GLVIA3 pp4.18). As noted previously, given that movement and visual disturbance from manmade structures influences the perception of tranquillity for the visual receptors experiencing them, consideration of tranquillity with respect to visual receptors should also be given. This was also identified by PINs scoping response, as noted in Table 14.5 whereby ‘the ES should also include consideration of significant effects on tranquillity from</p>	<p>has also sought agreement with Chilterns Conservation Board regarding these matters.</p> <p>Viewpoint locations 1, 45 and 50, identified on Figure 14.8 of the ES Figures [TR020001/APP/5.03], fall within the Chilterns AONB boundary.</p> <p><u>ZTV</u></p> <p>The Chilterns AONB boundary is identifiable on the base mapping used in Figure 14.2 of the ES Figures [TR020001/APP/5.03]. The study area was reviewed informed by the ZTV mapping and agreed with the LVIA Working Group.</p> <p>Reference to tranquillity at Clause 4.18 of GLVIA3 is made in a list noting the aspects of the operational stage considerations that may be most relevant to LVIA. It is not the assessors' interpretation therefore that this reference necessarily suggests tranquillity should be considered also in visual assessment.</p> <p>The movement and visual disturbance from manmade structures was considered with reference to magnitude of change in the visual assessment provided in the 2022 PEIR and further detail explaining the judgements on</p>	

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			<p>overflying aircraft (including visual effects where significant effects are likely). Further consideration of effects on tranquillity is required.</p> <p>A number of receptors/elements are not considered necessary for inclusion in the PEIR LVIA, such as effects of vapour trails; impacts on CRoW land, residents in properties at Dane Street, LCA 212 Lilley Bottom, Registered Parks and Gardens / Area of Great Landscape Value (AGLV) / Area of Local Landscape Value (ALLV); and impacts on Chilterns AONB in relation to lighting, but why are these not identified as elements being scoped out of the LVIA? It would be helpful to clearly identify the reasoning behind the non-inclusion of such elements in section 14.3.18, noting a slight heading change may be required.</p> <p>In response to the above however, will the quality of the designated land (including AONB extension land) not be altered by more planes/passengers, in terms of aesthetic and perceptual qualities in particular? Scoping out of effects on designated landscapes should be reconsidered or fully justified in the text.</p> <p>The extent of visual receptors identified via viewpoints still seems to be spread over a smaller study area than defined in the PEIR LVIA, with no representative viewpoints identified in land to the south-east, yet there are numerous listed buildings, PRow (footpaths/ bridlepaths/ long distance paths) and residential properties. This area is also within the proposed AONB extension land, to</p>	<p>magnitude of change is provided in the Detailed Visual Impact Assessment Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>It is similarly not the assessors' interpretation that the reference at Table 14.5 of PINS scoping response suggests tranquillity need be considered in both the landscape and visual assessment. The landscape assessment provided at Section 14.9 of Chapter 14 Landscape and Visual the ES [TR020001/APP/5.01] sufficiently accounting for this in its consideration of aesthetic and perceptual characteristics of the landscape.</p> <p>The approach to considering tranquillity within the ES has been discussed and agreed with the LVIA Working Group.</p> <p>Discussions conducted with the LVIA Working Group following the 2019 statutory consultation determined that impacts on Countryside and Rights of Way (CROW) Act 2000 access land, residents in properties at Dane Street and LCA 212 Lilley Bottom would be unlikely to result in significant landscape or visual effects. It was agreed with the LVIA Working Group accordingly that the</p>	

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			<p>which the PINs response notes that <i>‘[t]he assessment in the PEIR should take into account the proposed designation and any significant effects that may occur’</i>. As part of the Proposed Development, the hillside of fields would be excavated to a lower level with material used to build up the runway, before being converted to car parks. These are significant landscape and visual impacts, but they are not fully considered by the current LVIA for receptors to the south-east. Impact on receptors’ night time views needs to be considered (in order to identify and address any increase in light pollution from an expanded airport and from aircraft overhead). There is currently cross reference in Chapter 14 to Volume 3, Appendix 5.2 of the PEIR which contains a Preliminary Light Obtrusion Assessment, but there is no discussion on the findings or implications of this report within Chapter 14 or within Appendix 14.4 or 14.5. This needs to be addressed in the ES LVIA.</p> <p>Table 14.5 of the PEIR ES states that the <i>‘Proposed Development is substantially below the acceptable limits set out for Upward Flux Ratio...and nuisance caused by the lighting installation’</i>. However, this relates to static installations at the airport itself and does not reflect aircraft lights or vehicle headlights in the extended carpark area/ highways. Simply because an installation is meeting guidance on sky glow doesn’t mean there is no light spill or impact on night dark skies, and particularly dark night skies in</p>	<p>assessment of these receptors was unnecessary.</p> <p>Discussions conducted with the LVIA Working Group following the 2019 statutory consultation determined similarly that the assessment of effects on designated landscapes was beyond the scope of the LVIA and accordingly the assessment of these assets as receptors was also agreed to be unnecessary.</p> <p>The scoping position advised by PINS was that efforts should be made to agree receptors with the consultation bodies. The receptors assessed in the 2022 PEIR and included within the ES were agreed with the LVIA working Group.</p> <p>It is not considered necessary that the non-inclusion of these elements be further explained in section 14.3.18 as advised.</p> <p>Please also refer to response 2.3 above.</p> <p>The aesthetic and perceptual qualities of designated land areas are considered in the assessment, in so much as they relate to effects on landscape receptors (i.e., landscape character areas) that include within them designated assets. That the</p>	

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			<p>relation to the Chilterns AONB. Effects on night-time views as well as dark night skies needs much more careful consideration, justification and discussion within the ES LVIA.</p> <p>Whilst the PEIR LVIA states in Table 14.5 that the landscape and visual impacts of the Off-site Highway Interventions have been considered in Section 14.9, it is not clear which effects are related to the off-site highway works. However, paragraph 14.7.50 then states that significant effects are unlikely, so no viewpoints are identified in relation to off-site works. Further clarity is needed on whether these offsite works are Scoped in or Out (or if only visual receptors are scoped out for example). Elements of the offsite works impacting on landscape and visual receptors should be clearly identified in the narrative text of the ES LVIA.</p> <p>The PEIR LVIA states in Table 14.5 that the ridgeline, trees and ancient woodland that were key considerations in selecting the preferred option are identified in Figure 14.5 of Volume 4, however they are not clearly identified and labelled on this plan. Adding on the ridgeline and Ancient Woodland (to the key also) as well as the key trees and hedgerows discussed in Section 14.7.22 is needed for clarity.</p> <p>We query why effects on the setting of the AONB are not considered. Whilst an AONB designation does not hold the same legal weight as a National Park, and whilst the</p>	<p>assessment of the Proposed Development on a landscape or heritage designated asset is beyond the scope of this LVIA was agreed with the LVIA Working Group.</p> <p>Visibility to the Main Application Site is screened in distant views from the southeast by intervening landform and vegetation (refer to ZTV and Aerial Photograph at Figures 14.2 and 14.5 of the ES Figures [TR020001/APP/5.03]). It is the assessors' judgement therefore that, notwithstanding the presence of listed buildings, Public Rights of Way (PRoW) and residential properties in this area, the LVIA need not assess further visual receptors or include baseline photography from any additional viewpoint locations in this direction. The receptors and viewpoint locations included in Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] have been discussed and agreed with the LVIA Working Group.</p> <p>Notwithstanding the potential extension of the AONB into the land southeast of the airport, or PINS scoping response, it is the assessors' judgement that the LVIA need not assess further visual receptors or include further baseline photography</p>	

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			<p>Glover Report is not mandatory, development occurring in the setting can directly influence the perceptual and aesthetic qualities experienced by users of the AONB, notably along its boundaries. An explanation and justification within Appendix 14.9 would be beneficial to explain the decision.</p> <p>The PEIR LVIA states in 14.7.52 that <i>'Changes that would be brought about by [future] developments are recorded within the viewpoint assessment sheets included at Appendix 14.6 in Volume 3 of this PEIR'</i>. However, these are not clearly identified - the use of headings to identify text relating to the change in the view due to other developments would be beneficial.</p> <p>It is not clear why some stopped up PRow are not assessed (those that are permanently stopped up?) It's a huge impact on people who currently use those paths if those paths are no longer available. Is the impact on the PRow network and users considered elsewhere? It is not clear why users of some routes experience moderate beneficial effects when more built form, activity and disturbance is apparent. Further explanatory narrative is needed.</p> <p>Within the supportive RVAA at Appendix 14.8 the following clarifications would be beneficial:</p> <p>Impacts associated with work No. 4c have been scoped out, despite resulting in infrastructure 18m in height. This should be reconsidered, and the magnitude of</p>	<p>from additional viewpoint locations in this direction remains. A sensitivity test of the potentially expanded AONB based on the 'search area' extents shown in the CCB application was included in the 2022 PEIR and is provided in the Chilterns AONB Sensitivity Test in Appendix 14.9 of the ES [TR020001/APP/5.02].</p> <p>The assessment provided in the 2022 PEIR considered the landscape and visual impacts of proposed earthworks for all agreed landscape and visual receptors. Further detail explaining the judgements on magnitude of change for these receptors is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>Lighting (including the effects of aircraft lighting and vehicle headlamps) has been considered when determining assessment judgements throughout the LVIA.</p> <p>Please refer also to responses 2.2 and 2.3 above.</p> <p>The Off-Site Highway Interventions are not scoped out of the assessment. The reference at</p>	

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			<p>change reconsidered for nearby residential properties unless further justification on methodology and elements scoped out is provided</p> <p>It is noted that only infrastructure with a height of 10m or greater is considered as having the potential to result in a magnitude of change that could trigger the residential visual amenity threshold. However, given the proximity of Work No.1a to residential properties, should this be reconsidered?</p> <p>The appraisal seems to focus on operational magnitude of change and not temporary impacts during the construction phase of the works – if scoped out these need to be justified.</p> <p>There is little to no existing intervening structures separating residential properties to the proposed hotel in Work No.4a and thus further justification needs to be given as to why residential properties along Laxton Close and additional properties along Eaton Green Road are not considered.</p> <p>There appear to be discrepancies in the extent of visual effects identified. The study area extent should be re-examined - either a 150m offset from the extent of the full proposed development should be chosen, or clearly plot those Work Nos that include elements greater than 10m and identify individual 150m offsets from those elements.</p>	<p>paragraph 14.7.50 of the 2022 PEIR advised that Off-Site Highway Interventions would be contained entirely within the highway boundary and as agreed with the LVIA Working Group, would be unlikely to lead to significant visual effects; and uses this as justification for not therefore including representative views to these locations.</p> <p>This position has been amended in Section 14.7 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] following further consideration of works associated with land to the west of junction 10 of the M1 and immediately to the north of Half Moon Lane.</p> <p>Further explanation of the judgements on magnitude of change for receptors impacted by the Off-Site Highway Interventions is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>The ridgeline and Ancient Woodland, as well as the key trees and hedgerows discussed in Section 14.7.22, have been added into Figure</p>	

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			<p>Impacts associated with the aircraft themselves on the runway have not been considered, including the increase in visibility of the frequency of aircraft landing and taking off. Should this be taken into consideration?</p> <p>Whilst it is noted that access to individual properties was not sought or obtained, supporting photographic evidence adjacent to the property curtilage from publicly accessible locations has not been provided – nor alternatively has cross reference been made to representative viewpoints within the PEIR LVIA. Supporting information to support the findings is therefore lacking. It is unclear why Winch Hill House been singled out for mention.</p>	<p>14.5 of the ES Figures [TR020001/APP/5.03] for clarity.</p> <p>Discussions conducted with the LVIA Working Group following the 2019 statutory consultation ascertained that the ‘setting of an AONB’ does not have a defined geographical extent and that the setting is itself neither a landscape nor a visual receptor and accordingly consideration of the effects of airport expansion on the setting of the AONB falls beyond the scope of the LVIA. This position was reaffirmed with the LVIA Working Group following the 2022 statutory consultation.</p> <p>Recording Changes at Viewpoints it is not considered necessary to introduce separate headings on each viewpoint assessment sheet to describe changes that would be brought about by [future] developments. This would involve a disproportionate amount of additional time being spent on formatting and editing to what is being requested. This position was discussed and agreed with the LVIA Working Group following the 2022 statutory consultation.</p>	

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				<p>The LVIA considers as a landscape receptor the impact on the network of PRow east of the airport and as a visual receptor the impact on users of Luton Borough public footpaths FP29 and FP38 and public bridleways BW28 and BW37, which are to be stopped up. Users of several other PRow in vicinity to the airport were also assessed as visual receptors.</p> <p>The assessment did not assess the visual impact on users of Luton Borough public footpaths FP29 and FP38 and public bridleways BW28 and BW37 during construction for assessment Phases 2a and 2b because public access along this route would not be feasible during this period.</p> <p>This approach was agreed with the LVIA Working Group as noted in Table 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01].</p> <p>Further explanation of the judgements on magnitude of change for these receptors is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p>	

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				<p>The impacts associated with Work No. 4c have not been scoped out of the RVAA. The limits of the element of this work that would exceed 10m in height (Work No. 4c.01 - Fuel Storage Facility) is however located more than 150m from any residential properties.</p> <p>Work No. 1a proposes land raising principally where constructing the aviation platform, which is an appreciable distance from any residential properties. The methodology for conducting the RVAA was agreed with the LVIA Working Group, and the assessor does not consider it necessary for the 10m or greater height beneath which it is advised the Residential Visual Amenity Threshold (RVAT) would not be triggered to be reconsidered.</p> <p>Temporary impacts during construction of the works were not discounted when developing the methodology for the RVAA but, in the context of the Proposed Development and in considering the locations of surrounding residential property, were considered very unlikely to trigger the RVAT. This position has subsequently been discussed and agreed with the LVIA Working Group.</p>	

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				<p>Work No. 4a is located more than 150m from any residential properties, including those on Laxton Close and Eaton Green Road.</p> <p>The boundary shown on the plan that supports the RVAA provided at Residential Visual Amenity Assessment in Appendix 14.8 of the ES [TR020001/APP/5.02] has been re-examined to capture additionally previously omitted elements associated with Work No. 2, and has been produced by overlaying 150m offsets from each of the Work elements that are greater than 10m in height. The option to identify individually 150m offsets from each of these elements was considered but discounted in the interest of legibility. This approach was also discussed and agreed with the LVIA Working Group.</p> <p>Impacts associated with aircraft were not discounted. No parts of the airfield that are accessible to aircraft however fall within 150m of any residential properties.</p> <p>The RVAA provided at Appendix 14.8 of the ES [TR020001/APP/5.02] has been amended to include supporting photographic evidence.</p>	

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				Winch Hill House is singled out for mention as it is the only residential property to the east of the airport that could potentially have fallen within distance of Work No. 4c.01.	
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria? (to be checked against comments in Appendix 17)	B	<p>Yes, the value, susceptibility and sensitivity criteria are outlined in Appendix 14.1, It should be noted however that there is no discussion/ table identifying the relationship between the three classifications of susceptibility against the five classifications for value. How are value and susceptibility combined to determine Sensitivity? This needs to be more fully and clearly defined.</p> <p>The PEIR LVIA states in Table 14.5 that <i>'Judgements on the value of views experienced by visual receptors are summarised in Appendix 14.6'</i> however, there is no discussion on the value of the view identified in Appendix 14.6, nor discussion on the application of value, susceptibility or sensitivity criteria on the identified landscape or visual receptors (either in Chapter 14 or within Appendix 14.4 or 14.5, although the assigned value/ susceptibility/ sensitivity rating is given in Appendix 14.4 or 14.5, but no discussion). It is noted that <i>'Further explanation of these judgements will be provided in the ES'</i> and it is therefore expected that a full and clear discussion and qualitative statement for each receptor on its value, susceptibility and resulting sensitivity is provided in the ES LVIA.</p>	<p>The 2022 PEIR included only a summary of the effects on visual receptors. Further detail explaining the types of visual receptor and judgements on value and susceptibility is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>The error at Table 14.5 of the 2022 PEIR is acknowledged and has been rectified in Table 14.5 of Chapter 14 Landscape Visual Impact the ES [TR020001/APP/5.01].</p> <p>It is not evident to the assessor why a view from or across a designated landscape should automatically increase the value attached to the views experienced by a visual receptor, given the same detractors present currently in views experienced by those receptors (e.g. the airport) may be expected to remain.</p> <p>It is also not the assessors' understanding that reference to</p>	Yes

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			<p>The assumption that the quality of a landscape recognised through designation does not materially affect the sensitivity of visual receptors within the area is questionable and should be reconsidered. As identified in GLVIA3 paragraph 6.14, people have differing responses to views depending on context and purpose, and as outlined in GLVIA3 paragraph 6.37, the Value attached to views can be influenced by its designation - an AONB for example would feature on maps and tourist literature and the designation in itself is an indicator of value attached to the view. Dismissing an AONB designation as having no influence on visual receptors is not considered appropriate and should be reconsidered. This could also be considered applicable to other designated landscapes including AGLVs and ALLVs.</p>	<p>people having different responses to 'changes in views' provided at paragraph 6.14 of GLVIA3 is advised with reference to value. The context to this statement more clearly being associated with factors pertinent to judgements on susceptibility to change...</p> <p><i>“People generally have different responses to changes in views and visual amenity depending on the context (location, time of day, season, degree of exposure to views) and purpose for being in a particular place (for example recreation, residence or employment, or passing on roads or by other modes of transport).”</i></p> <p>The assessor also does not agree with the reviewers' interpretation of paragraph 6.37 of GLVIA3, given the reference to 'planning designations' advised at this paragraph is made specifically in relation to 'particular views'.</p>	
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>Consultation has been undertaken and elements agreed with the LVIA Working Group consisting of representatives from the Local Authorities, but there appears to have been little consultation with the Chilterns Conservation Board. This should be rectified in the ES.</p> <p>It is noted in 14.8.12 (d) as part of the mitigation section (Good Practice) that further</p>	<p>The Applicant has engaged and sought agreement on matters with CCB as well as the local authorities since the 2022 statutory consultation. The results of this engagement are set out in Table 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01].</p>	

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			<p>consultation will be undertaken to help control construction-related impacts. The results of this consultation should be clearly set out in the ES.</p> <p>It would also be beneficial to clarify the phases being considered. The PEIR LVIA (paragraph 14.3.12 includes the following:</p> <ul style="list-style-type: none"> a. Construction assessment Phase 1 and interim ATM effects (c.2023 -2031). b. Construction assessment Phase 2a and interim ATM effects (c. 2032 -2036). c. Construction assessment Phase 2b and interim ATM effects (c. 2037 -2042). d. Operation effects (year of maximum ATM capacity – c.2043). e. Operation effects (design year - c.2056). <p>However, Table 14.6 identifies inclusion of photomontages showing the establishment of proposed landscape mitigation at years 2032 (ahead of assessment Phase 2a) and 2041 (year of maximum ATM capacity), the latter of which is inconsistent with the assessed phases outlined above.</p> <p>It is unclear, when the assessment refers to 15 years for planting, why 2056 is identified as the design year (14 years after the end of Phase 2b construction). The PEIR LVIA (paragraph 14.5.5) states that the design year is 15 years beyond the end of the construction in 2041, although the phases above suggest end of construction is 2042. It is also unclear why mitigation planting is not proposed to be shown on the photomontages</p>	<p>The Good Practice mitigation identified at Paragraph 14.8.12 regards the control of construction-related impacts and therefore refers to activities that are to be conducted should the Proposed Development be granted consent.</p> <p>All pre-application discussions with relevant stakeholders are set out in Table 14.6 of Chapter 14 Landscape Visual of the ES [TR020001/APP/5.01].</p> <p>The Construction Method Statement and Programme Report, provided at Appendix 4.1 of the ES and Table 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.02] advise that this stage of construction activities would end by the start of 2041. 2056 is therefore representative of 15 years beyond the end of construction.</p> <p>The additional period to 2042 that forms part of LVIA assessment ‘Phase 2b’ regards the interim period when Air Traffic Movements (ATMs) would continue to rise up to the maximum ATM capacity, which the assessment assumes would be achieved in 2043.</p>	

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			for the design year, given that the design year is cited as representing the effectiveness of the mitigation planting. Further clarification is needed.	<p>The error at Table 14.6 of the 2022 PEIR is acknowledged and has been rectified in Table 14.6 of Chapter 14 Landscape Visual of the ES [TR020001/APP/5.01].</p> <p>Accurate Visual Representations (photomontages) showing the establishment of proposed landscape mitigation provided at Appendix 14.7 of the ES [TR020001/APP/5.02] have been amended to show the establishment of proposed landscape mitigation at years 2032 (ahead of assessment Phase 2a) and 2043 (year of maximum ATM capacity).</p> <p>Discussions conducted with the Technical Working Group ahead of the 2022 statutory consultation agreed - because most mitigation planting delivered early in construction would by the design year have been in place over 30 years - that it would be preferable to illustrate the planting at the year of maximum ATM capacity rather than the design year. This decision was reaffirmed with the LVIA Working Group following the 2022 statutory consultation.</p>	
2.7	Is the future baseline scenario adequately described?	C	Depending on the submission dates, it is assumed that the baseline and “future baseline” scenarios will be revised to	The baseline for the ES has been updated to represent more accurately	Yes

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			<p>represent more accurately the scenario at time of submission, for example, the increase in passengers from 18M per year to 19M which was signed off in December 2021. A 'Sensitivity Test' has been undertaken for the potential Chilterns AONB Extension Area (Appendix 14.9) to consider the effects should this extension be granted. Further clarification is needed:</p> <p>Sensitivity of receptors – paragraph 2.1.7 notes potential changes to receptor sensitivity following the AONB extension of the AONB boundary, however, see response comments to Ref 2.5 above relating to relationship between value, susceptibility and sensitivity. Further narrative is required. Note also, that the elements appear to be considered individually as landscape receptor elements only, such as PRow, narrow lanes and farmsteads. However, these can also be considered as visual receptors.</p> <p>Visual Effects - Paragraph 2.2.2 The assumption that visual receptors would experience no change in sensitivity as a result in change in AONB designation is not considered appropriate. The value of a view, and potentially its susceptibility, can both be influenced by its perceived quality. Users of a PRow through an AONB should have a higher sensitivity than users of a PRow through an industrial estate or residential area, where the latter is mainly aimed at providing pedestrian access from A to B,</p>	<p>the scenario at the time of submission.</p> <p>On 1 December 2021, the local planning authority (Luton Borough Council) resolved to grant permission for the current airport operator (LLAOL) to grow the airport up to 19 mppa, from its previous permitted cap of 18 mppa. The application was subsequently called-in and referred to the Secretary of State for determination instead of being dealt with by the local planning authority. The inquiry to consider the called-in application opened on Tuesday 27 September 2022, running until Friday 18 November 2022. At the time of submission of the application for development consent, the outcome of the inquiry was unknown. All assessment work to date has been undertaken using a "baseline" of 18 mppa. Nonetheless, in anticipation of LLAOL's 19 mppa planning application, the environmental assessments included sensitivity analysis of the implications of the permitted cap increasing. As a result, the Applicant believes that the environmental assessments are sufficiently representative of the likely significant effects of expansion, whether the baseline is 18 mppa or 19 mppa. Where the change of the baseline does affect an assessment topic, in most cases it means that the</p>	

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			<p>whereas the AONB paths are used for leisure, tourism and to experience the countryside. Thus, the change to the designation of the landscape, would be expected to encourage visitors and tourists to the area, increasing users, and increasing the value of the views. Dismissing an AONB designation as having no influence on visual receptors is not considered appropriate and it is recommended that this section of the appraisal is revisited.</p> <p>Further narrative on the justification of the proposed scheme having a beneficial effect upon the narrow country lanes with hedgebanks is needed.</p>	<p>'core' assessments (using an 18 mppa baseline) report a marginally greater change than would be the case with a 19 mppa baseline.</p> <p>Nevertheless, as part of the ongoing EIA process, the Applicant has continued to assess the likely significant environmental effects resulting from the future construction and operation of the airport. This included keeping a watching brief on the inquiry regarding the called-in application as well as consideration of feedback received at Statutory Consultation 2 to see if this required the Applicant to make a change to its assessments and proposals. The findings of this assessment are presented in the ES.</p> <p>Please refer also to response 2.2 above.</p> <p>The 2022 PEIR included only a summary of the effects on landscape and visual receptors. Further explanation of how judgements on value and susceptibility are combined to determine sensitivity is provided in Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>The reviewers' comment that <i>'the elements appear to be considered</i></p>

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				<p><i>individually as landscape receptor elements only, such as PRow, narrow lanes and farmsteads. However, these can also be considered as visual receptors.</i> is unclear. The visual receptors to be considered in the assessment were discussed and agreed with the LVIA Working Group ahead of the 2022 statutory consultation and included amongst them users of several PRow in vicinity of the Application Site, users of several of the lanes in vicinity of the Application Site and users of several farmsteads in vicinity of the Site. GLVIA3 is very clear in its guidance that landscape and visual assessments, although linked, are separate. The reviewers' comments appear to confuse this understanding.</p> <p>Whilst the assessor accepts that a change to the designation of the landscape may be expected to encourage visitors and tourists to the area, the assessor disagrees with the reviewers' premise that sensitivity of a visual receptor should automatically increase as a consequence of the status of their location changing.</p> <p>The agreed LVIA Methodology provided at Appendix 14.1 of the ES [TR020001/APP/5.02], makes clear that sensitivity is a product of the</p>	

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				<p>combination of judgements between susceptibility to change (a product of the activity being undertaken by the receptor at the time) and value of the view. The methodology already determines users of PRoW to be of High susceptibility to change and this status would not be further altered by the AONB expanding into this location.</p> <p>It is not evident to the assessor either why a landscape holding status as AONB should automatically increase the value attached to the views experienced by a receptor, given the same detractors present currently in views experienced by those receptors (e.g., the airport) may be expected to remain.</p> <p>The 2022 PEIR included only a summary of the effects on this receptor. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p>	
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	The PEIR Vol 1 Section 14.6 details assumptions and limitations associated with access and growth rates for proposed planting, and further information is provided in Appendix 14.1 detailing ZTV production and viewpoints.	The 2022 PEIR included only a summary of the effects on this receptor. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact	Yes

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			The likely landscape and visual impacts associated with each phase and during construction and operation need to be clearly explained in the ES, not just summarised in tables.	Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].	
2.9	Which are the key receptors for the local authorities?	C	<p>The identification of key receptors should be discussed further with the Chilterns Conservation Board.</p> <p>From the review, the following points are noted which all need further consideration: Consideration of viewpoints from designated assets (including Luton South Conservation Area; Areas of Great Landscape Value; Areas of Local Landscape Value; Registered Park and Gardens or AONB extension area) should not be dismissed. The value attached to views of designated landscapes should be reconsidered in line with GLVIA3, with full consideration given to the aesthetic and perceptual qualities and impacts including inter visibility.</p> <p>Reference to tranquillity, and impacts of the Proposed Development on tranquillity, should be considered more fully and form part of the narrative when assessing both landscape and visual receptors.</p> <p>Reference to lighting and its impacts, including overflying aircraft and vehicle headlights, should be considered more fully and form part of the narrative when assessing both landscape and visual receptors.</p>	<p>Please refer to responses 2.4 and 2.6 above.</p> <p>The viewpoints considered in the ES were discussed and agreed with the LVIA Working Group. It is not considered that further viewpoints from designated assets are necessary to further inform judgements within the assessment.</p> <p>Please refer to response 2.5 above.</p> <p>The 2022 PEIR included only a summary of the effects on landscape and visual receptors. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>Please refer also to response 2.4 above.</p> <p>Please refer to responses 2.3 and 2.4 above.</p>	Yes

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			<p>Where is the additional study area boundary relating to land within the Chilterns AONB where aircraft would be below 7000 ft. (AMSL)? It does not seem to appear on any plan, and it is unclear what receptors fall within this additional study area or what its current baseline is.</p> <p>Clarification of the study area is required, with a clear description and graphic representation of the AONB 7000ft zone, the full extent of Landscape Character Areas (LCAs) being considered and the off-site highways areas (with 250m buffer). The 'Additional' AONB area (where aircraft would be below 7000 ft.) and Character Area extents are not shown on any plan, whilst the offsite highways area is shown only on the smaller scale plans (such as Figure 14.7). There are no viewpoints associated with these works and it is unclear if they are considered within the baseline. It is also unclear where published LCA boundaries have been amended. This should be clearly identified and explained and added to the assumptions if necessary.</p>	<p>The 2022 PEIR included only a summary of the effect on landscape receptor 'the aesthetic or perceptual characteristics of the landscape within the Chilterns AONB'. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>Please refer also to response 2.3 above.</p> <p>Please refer to response 2.3 above.</p> <p>Please refer to response 2.4 above.</p> <p>LCA boundary LBLCA13, as published by LBC, is shown to be reduced in extents where it overlaps published LCAs HLCA200 and HLCA201, to the east of the airport. This is because the Hertfordshire defined boundary is not limited in its extents to the authoritative boundary and because the published description for LBLCA13 makes clear a distinction between the landscape to the east and west of this edge.</p> <p>For a similar reason, LCA HLCA200 also incorporates within it the published LCAs CBD11D and LB15.</p>	

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				This rationale for amending published LCA boundaries was discussed and agreed with the LVIA Working Group.	
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B	<p>PEIR Vol 1 Section 14.8 and Section 14.10 as well as Appendix 14.1 Section 1.9 make reference to embedded and additional mitigation measures. Embedded and additional mitigation measures proposed are also covered in Figures 14.9 to 14.13 inclusive. Further detail on the management of existing and proposed vegetation is detailed in Appendix 8.2 Draft Landscape and Biodiversity Management Plan (LBMP). It would be beneficial to outline when such mitigation measures would be implemented and how these have informed the assessment. A much clearer narrative description of effects within Appendix 14.4 and 14.5 is needed.</p> <p>Growth rate assumptions are outlined in PEIR Chapter 14 Section 14.6 which makes reference to differing plant stock sizes. It is unclear where these different sizes of stock are to be used. No trees (particularly Light and heavy standards) are identified on the mitigation plans, and no narrative commentary is provided in the visual assessment as to the effects of different stock sizes on views, or how this changes over time. It would be beneficial to detail the location of the different sized stock,</p>	<p>It is acknowledged that assumptions concerning the implementation of landscape mitigation were not made clear within the 2022 PEIR. Section 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] has therefore been amended to detail this further.</p> <p>The 2022 PEIR included only a summary of effects on landscape and visual receptors. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>It is acknowledged that assumptions concerning plant stock sizes were not made clear within the 2022 PEIR. Section 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] has therefore been amended to further clarify this matter. A Landscape Mitigation Establishment Schedule is also</p>	Yes

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			particularly in relation to larger trees. This should also be referenced within the photomontages undertaken.	provided at Appendix 14.10 of the ES [TR020001/APP/5.02] .	
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B	<p>Embedded mitigation (described in Section 14.8 of the PEIR LVIA Vol 1) has sought to avoid impacts on ancient woodland, retain mature woodland / hedgerow vegetation along the ridgeline of Winch Hill and introduce replacement open space (to compensate for loss of some sections of Wigmore Valley Park). Material excavated to form the aviation platform would be used to create an earth bund and screening.</p> <p>Additional mitigation proposed in PEIR LVIA Vol 1 Section 14.10 has been incorporated into the Proposed Development's boundary and includes additional mitigation planting for screening and to mitigate for the loss of existing vegetation. Measures cover further hedgerow / hedgerow tree planting to reinstate historic field boundaries, woodland and understorey planting and improvements to PRow.</p> <p>Consultation with the LVIA working Group suggests the mitigation proposals are deemed to be sufficient, although it is noted that limited consultation with the CCB has been undertaken.</p> <p>Brief descriptions of the change to the view are provided in Appendix 14.6, which is helpful but this needs to be expanded in the ES to cover winter and summer views, at construction and operation and with mitigation in place, so that the effects of</p>	<p>The Applicant has sought agreement with the Chilterns Conservation Board regarding these matters.</p> <p>It is not considered necessary for the Applicant to further expand the descriptions provided in the 2022 PEIR. These viewpoints are representative of the views experienced by visual receptors at various locations within the study area and are not in themselves receptors to any effect.</p> <p>The 2022 PEIR included only a summary of the effects on landscape and visual receptors. Further explanation of how judgements were combined to determine significance (taking into account seasonal variations where relevant) is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>The 2022 PEIR included only a summary of the effects on landscape and visual receptors. Further explanation of how judgements were combined to determine significance is provided in the Detailed</p>	Yes

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			<p>mitigation on the view (both maturing planting and additional mitigation) can be more fully understood.</p> <p>It is noted that in Table 14.5 that '<i>Describing the likely significant effects prior to embedded and good practice mitigation is not considered good practice...</i>' however, planting takes time to mature. Where appropriate therefore, discussion, assessment and visualisations should be provided to show the effect of the embedded maturing vegetation over time, as the screening/ softening function of such planting will take time to fulfil its desired function. Consideration of effects and residual effects needs further clarification, with effect of mitigation planting more clearly identified. Growth rates should be cross-referenced here. A table showing year of mitigation planting and growth rates against each of the phases would be beneficial e.g., planting completed by end of Phase 1 so by 2032? Therefore, by Design year, 2056 it is 24 years of growth? What heights would each area then achieve?</p> <p>It is not clear what 'enhancements' are being proposed and why. The questions that 'could be usefully considered' that are outlined in Appendix 14.1 pp1.10.2 do not appear to have been answered anywhere.</p>	<p>Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>It is acknowledged that assumptions concerning growth at each assessment stage were not made clear within the 2022 PEIR. A Landscape Mitigation Establishment Schedule is provided at Appendix 14.10 of the ES [TR020001/APP/5.02] to further clarify this.</p> <p>Enhancement is not a requirement of the EIA Regulations, mitigation advised in the LVIA ES is accordingly focussed on matters linked to significant adverse effects. The Applicant recognises however that it has a responsibility to manage and ensure future stewardship of the landscape affected by the Proposed Development into the future,</p> <p>A Strategic Landscape Masterplan Report [TR020001/APP/5.10] has been prepared which sets out principles of the design, enhancement, and management.</p>	
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their	B	It is unclear from the PEIR LVIA or Appendix 8.2 Draft Outline Landscape and Biodiversity Strategy, how the mitigation measures are to be secured, although the LBMP states that maintenance will be undertaken for 50 years.	The Applicant has within its ownership most land holdings necessary to deliver the proposed landscape mitigation measures	Yes

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	<p>delivery lies, where possible at this stage?</p>		<p>The LBMP focuses on an initial 5-year period so further clarity is needed on the long-term management operations, arrangements and responsibilities for delivery.</p> <p>Whilst it is assumed that management and maintenance would be in perpetuity for LLAL land, this needs to be confirmed and also whether new public open space forming part of the remodelled Wigmore Valley Park would be handed over to the host LPA and if so, when. Do specific offsets need to be specified in the Management Plan to avoid damage to existing tree root protection areas, hedgerows, future and potential veteran and ancient woodland? This is partially covered in the NTS under section 8.2.1 relating to existing Ancient Woodland and veteran trees, but further clarity is needed.</p> <p>There is a lack of certainty over future management and funding of Wigmore Valley Park. A landscape mitigation fund could be set up as part of the compensation package to enable <i>“oversight of future landscaping and planting mitigation around the site”</i>. There is also a need for further clarity over the scale and duration of mitigation schemes and aftercare – long term wardening by an ecological competent organisation is required not just a general-purpose management company / trust.</p>	<p>described in Sections 14.8 and 14.10 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] and is in negotiations with third parties to secure the delivery of proposed mitigation outside their ownership. Whilst the DCO could allow the Applicant rights over third-party land to facilitate the delivery of mitigation the Applicant is seeking to avoid this if possible.</p> <p>Landscape mitigation would be managed and maintained in accordance with the Outline Landscape & Biodiversity Management Plan given at Appendix 8.2 of the ES [TR020001/APP/5.02].</p> <p>A Tree Protection Plan that identifies existing trees to be removed and that sets out the necessary measures to avoid damage to existing tree root protection areas is provided in the Arboricultural Impact Assessment provided at Appendix 14.3 of the ES [TR020001/APP/5.02]. The CoCP provided at Appendix 4.2 of the ES [TR020001/APP/5.02] and the Outline Landscape & Biodiversity Management Plan given at Appendix 8.2 of the ES [TR020001/APP/5.02] require the contractor to undertake works in</p>	

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				<p>accordance with the Tree Protection Plan.</p> <p>The Applicant is in discussions about the future management of the public open space and seeking to agree the detailed arrangements. The Applicant has however committed significant funds within their future budgets to fund the management of the park into the future.</p>	
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	B	<p>Appendix 8.2 Draft Outline Landscape and Biodiversity Management Plan outlines the requirements for landscape monitoring across the 50-year Plan period but needs further clarification on detailed arrangements and responsibilities.</p> <p>The Management Plan should demonstrate the effectiveness of mitigation measures in reducing the specific adverse landscape and visual effects identified.</p>	<p>The landscape monitoring requirements set out in the Outline Landscape & Biodiversity Management Plan given at Appendix 8.2 of the ES [TR020001/APP/5.02] were discussed and agreed with the LVIA Working Group and include various qualitative and quantitative measures for demonstrating the effectiveness of mitigation measures in reducing identified landscape and visual effects.</p> <p>The Applicant has provided indicative designs only in the application for development consent, with detailed design to follow and be agreed with the relevant local authority(ies) under the DCO Requirements. It is not considered that the detailed arrangements and responsibilities of monitoring need be clarified at this stage.</p>	Yes

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3.5	How could the proposed mitigation measures and/or the proposed development be improved?	B	<p>The revised changes, particularly to the POS reduce potential compartmentalisation and fragmentation but as professional judgement alone is being cited as the method of determining effectiveness it is unclear whether proposed mitigation measures are sufficient to reduce significant adverse effects and therefore what improvements could be made.</p> <p>Aspects to consider include but are not limited to: The delivery, functioning and management of the replacement Wigmore Valley Park; ensuring that mitigation measures don't themselves have an adverse impact; and managing the significant change in the landscape over time (construction & operation).</p> <p>With regards the main body of POS (that comprises neutral meadow grassland, amenity grassland and woodland), it is suggested that the opportunity to create a more traditional Hertfordshire parkland estate character, comprising woodland blocks, tree clumps, and tree avenues, should be further explored.</p> <p>There needs to be greater consideration for the creation of multiple sustainable and safe access routes/road crossings into the POS from the existing and potential new communities to the north. There also needs to be an understanding of the likely pressures on the character and</p>	<p>The use of professional judgement to determine the likely effectiveness of mitigation measures was discussed and agreed with the LVIA Working Group.</p> <p>The LVIA Working Group has also been consulted on the effectiveness of proposed mitigation measures in reducing significant adverse effects and confirmed that further offsite measures would not be necessary.</p> <p>Judgements made in the LVIA also take into consideration potential aspects associated with the delivery and management of landscape mitigation measures.</p> <p>It is acknowledged that the opportunity to create a more traditional Hertfordshire parkland estate character within the Replacement Open Space should be further explored; that the Replacement Open Space will need to be suitably designed to accommodate the likely pressures and needs from the existing and potential new communities; and that detailed planting proposals and a coordinated street furniture strategy will be required. The Applicant however proposes to deal with the detailed design of the public open space under DCO Requirements. The Applicant does not therefore</p>	No

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			<p>quality of the POS expected from the existing and potential new communities, and how these will be effectively mitigated and managed in the long term. Indeed, how are the needs of the local area evidenced and delivered within the scheme?</p> <p>How will the design and layout of the POS enable effective management and grazing regimes, avoiding conflicts between people and animals, and influence the prevailing character of each space?</p> <p>A detailed planting specification is required to identify quality of workmanship, materials, species selection and planting sizes/</p> <p>An interpretation and street furniture strategy are required, to ensure that the location and design of these elements is cohesive, does not result in unnecessary clutter, and is sympathetic to the parkland character.</p>	<p>propose to further explore these matters at this stage.</p> <p>It is envisaged that uncontrolled crossings (small scale improvements providing formal dropped kerbs and tactile paving, alongside a small section of paved footway within the park itself) would be provided adjoining the Replacement Open Space (Work No. 5b(02)) on Eaton Green Road, to improve connectivity between FP39 and the proposed parkland; and at the junction of Eaton Green Road and Darley Road, to improve connectivity along the Chiltern Way long-distance footpath.</p> <p>Following the omission of public open space land to the east of Winch Hill Road, it is no longer envisaged that users of the Replacement Open Space would be affected by proposed grazing regimes. It is acknowledged however that the Replacement Open Space will need to be suitably designed to avoid conflicts between people and animals. The Applicant proposes that the detailed design of the public open space be dealt with under the DCO Requirements. The Applicant does not therefore propose to further explore this matter at this stage.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	Yes, in Appendix 14.1.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	Yes, in Appendix 14.1. For both landscape and visual there are specific 9-point tables: Table 3 Magnitude of Landscape Impact and Table 8 Magnitude of Visual Impact	Noted.	No
4.3	Are the methods for evaluating significance clearly defined/?	A	Yes, referred to in Appendix 14.1 Section 1.6.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	B	Yes, in terms of GLVIA3. It is important to note that comments from PINS and LPAs refer to the guidance advocating a reduced reliance on matrices and adoption of a more narrative approach. Appendices 14.4 and 14.5 consist of a table summarising landscape effects (Appendix 14.4) and visual effects (Appendix 14.5). However, the main Chapter 14 text, such as in Table 14.5, states that <i>'The assessments draw upon tables and matrices identified in Appendix 14.1 in Volume 3 of this PEIR but use narrative text to describe and explain the landscape and visual effects and the judgements made'</i> . This narrative text is not yet available for review. It is noted that <i>'Further explanation of the judgements summarised... will be provided in the ES'</i> . It is vital that such narrative text is produced as part of the ES to justify the assessment, including commentary on value, susceptibility, sensitivity, magnitude	Narrative text, including commentary on value, susceptibility, sensitivity, magnitude and sensitivity, effects and residual effects on all receptors is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			and sensitivity, effects and residual effects on all receptors. The narrative text then needs to be cross checked for consistency with summary tables, summary text and the NTS.		
4.5	Have potential effects been considered both during construction and operation?	A	The assessment does consider effects during construction and operation.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	C	<p>Whilst it is identified that consideration of probability is given in judging susceptibility; and consideration of sequential effects is given when determining magnitude and significance, no breakdown or narrative explanation is generally given to explain the reasoning behind any of the assessment in Appendix 14.4 or 14.5 (e.g. on susceptibility, value, sensitivity and magnitude) so it is unclear how such judgements have been reached. It is therefore not possible to determine if each has been appropriately considered. It is expected that such narrative text justification will be provided in full in the ES. It would be beneficial to cross reference the individual viewpoints within the narrative text.</p> <p>Within the “Non-EIA Residential Visual Amenity Appraisal” (RVAA) at Appendix 14.8, the written supporting evidence relating to the magnitude of change and effects is generally considered to be lacking in detail. Due to the relatively small number of residential properties considered, a more detailed written description of impacts and effects would be expected as part of the ES LVIA Appendix. Under section 3.1.2 – the relevant</p>	<p>Narrative text, including commentary on sensitivity, magnitude and sensitivity, effects and residual effects on all receptors is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] and cross-refer to individual viewpoints where relevant.</p> <p>The RVAA identified that all the receptors are located towards the edge of the study area limits and would experience a low magnitude of change. It also makes clear that only receptors determined to experience the highest magnitude of change (i.e., High adverse) would engage the RVAT. As such, the Applicant does not consider it necessary to further expand the descriptions provided in the 2022 PEIR.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			Work No. should be included after each item, similar to that of 3.1.3		
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	C	Significant adverse and beneficial effects are identified and described, but the PEIR LVIA does not include a detailed explanation and justification for the significance decisions made. It is expected that such narrative text justification will be provided in full in the ES.	Please refer to the response to Ref 4.4.	Yes
4.8	Are the residual significant effects clearly stated?	B	Yes, although narrative text in some instances would be beneficial to explain the decisions made. It is expected that such narrative text justification will be provided in full in the ES.	Please refer to the response to Ref 4.4.	Yes
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	Yes, the interaction of effects and cumulative effects been considered in Chapter 21. Depending on submission timescales, additional developments coming forward may need to be considered within this section.	The cumulative effects advised in Chapter 21 In-combination and Cumulative Effects of the ES [TR020001/APP/5.01] takes into consideration relevant additional developments that have come forward since the 2022 statutory consultation.	Yes
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	As outlined in Ref 2.8, the likely landscape and visual impacts associated with each phase and during construction and operation need to be clearly explained in the ES, not just summarised in tables.	The likely landscape and visual impacts during construction and operation are fully explained in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] .	Yes
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	This has been largely considered, with a small number of elements requiring some further consideration, as outlined in the above table rows.	Explanation as to how the scoping opinion has been considered in the LVIA is provided at Table 14.5 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	An overall concluding paragraph is required, rather than a cross reference to Appendix 14.4 and 14.5 summaries.	The large number of landscape and visual receptors and various stages against which an assessment has been conducted make it impractical to adequately summarise the assessment in an overall concluding paragraph. Section 14.14 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] does however continue to reference the summaries provided at the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] .	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	B	Yes, the summary is in tabular form although the specific mitigation measures are not - they are bullet points in the main chapter text.	A summary of the mitigation measures is presented within the detailed assessments and summary tables provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] .	Yes
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	Yes, in so far as there is clear explanation of methodology and process undertaken, but there is no narrative text explaining judgements made within the assessment making it difficult to understand the reasoning behind the results. This is expected to be provided in full within the ES.	The 2022 PEIR included only a summary of the effects on landscape and visual receptors. Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].	
6.2	Is the PEIR readable to the audience for which it is intended?	B	<p>Yes, but lacking in explanatory detail in terms of judgements made. There are a number of typos, errors, poorly written sentences as well as some terminology differences within the main Chapter documents, appendices and figures. e.g., 'vegetation' in Figure XXX, 'Zone of Visual Influence' in Appendix 14.1 pp 1.6.9; use of the summer view instead of winter view in VP1 etc. All documents should be thoroughly proofread for the ES and errors rectified.</p> <p>Any text in speech marks should contain the appropriate cross reference as to the source document it is quoting, such as PEIR LVIA pp 14.7.10</p>	<p>Further explanation of how judgements were combined to determine significance is provided in the Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02].</p> <p>All ES LVIA documents and drawings have been subject to several stages of review and checking to rectify errors wherever possible.</p> <p>Text in speech marks within Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01] has been reviewed to ensure it includes appropriate cross referencing.</p>	Yes
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B	Yes, generally clear and concise.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	B	Yes, notwithstanding any minor updates in response to commentary above.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	C	<p>Yes, the Figures are expected. Some commentary below.</p> <ul style="list-style-type: none"> Figure 14.2 ZTV – updated ZTVs may be required 	An updated ZTV is provided at Figure 14.2 of the ES Figures [TR020001/APP/5.03] following	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> • Figure 14.3 Local Landscape Character Areas – some recognition of which LCAs have been amended as part of the assessment would be beneficial. • Figure 14.5 Aerial Photograph – It is not clear why this only covers the Main Application Site and not the whole study area • Figure 14.6 Public Rights of Way – It is not clear why this only covers the Main Application Site and not the whole study area or off-site work area • Figure 14.7 LVIA Constraints - it is not clear why part of the study area to the south has been cut off. • Figure 14.8 Assessment Viewpoint Locations <p>Unfortunately there is no logic to the ordering of viewpoints across the study area, and the List provided is also not in order. It would be preferable for the viewpoint numbers to follow logically around the page, but as a minimum, and for ease of reference, the Viewpoint list shown should be in numerical order. Hitchin off-site works area is also not shown on this plan.</p> <p>Figure 14.9 - 14.13 - Mitigation. Individual trees are not identified - the location of the proposed trees (and larger planting stock in particular such as Heavy Standard Trees) should be identified.</p>	<p>changes to the maximum height parameters information.</p> <p>Figure 14.3 of the ES Figures [TR020001/APP/5.03] notes on it that HLCA200 includes within it CBCLCA11D and LBLCA15. Amendments to published LCAs are also identified within the detailed assessments provided in the Detailed Landscape Impact Assessment in Appendix 14.4 of the ES [TR020001/APP/5.02].</p> <p>Including an aerial photograph of the entire study area is not considered necessary, as the majority of landscape effects would occur within the Main Application Site and showing the full extent would reduce legibility. This rationale was discussed and agreed with the LVIA Working Group and is reflected in Figure 14.5 of the ES Figures [TR020001/APP/5.03].</p> <p>Including PRow for the entire study area was not considered necessary, as the majority of landscape effects would occur within the Main Application Site and showing the full extent would reduce legibility. This rationale was discussed and agreed with the LVIA Working Group and is reflected in Figure 14.6 of the ES Figures [TR020001/APP/5.03].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
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			<p>A figure identifying the key work package areas discussed in the PEIR LVIA would be useful for ease of reference in the Chapter. Within the RVAA at Appendix 14.8, there is no correlation between the assessment text and the supporting figure - the text notes the individual works elements, e.g., 4b, however the plans themselves only illustrate the broader 6 work phases. Additional information is required in order to inform a robust appraisal.</p> <p>For consistency, supporting figure LLADCO-3C-ARP-00-00-DR-YE-0198 (Residential Visual Amenity Assessment (RVAA) study area within the RVAA at Appendix 14.8 should be split into three different drawings, one for each Work Package.</p>	<p>This error is acknowledged and has been rectified in Figure 14.7 of the ES Figures [TR020001/APP/5.03].</p> <p>It is acknowledged that the viewpoints presented in Figure 14.8 of the 2022 PEIR were not presented in an ordered way. This matter has been rectified in Figure 14.8 of the ES Figures [TR020001/APP/5.03]. The Hitchin area is not shown, as none of the viewpoints included in the assessment are located in this part of the study area.</p> <p>Individual trees were not shown in the figures that supported the 2022 PEIR and have not been identified within the figures provided in the ES [TR020001/APP/5.03], as this level of information would not prove legible at the scale used. Further detail concerning the assumptions made about individual trees has however been provided in Section 14.6 of Chapter 14 Landscape and Visual of the ES [TR020001/APP/5.01]. This rationale was discussed and agreed with the LVIA Working Group.</p> <p>It is not considered necessary or beneficial for the RVAA figure provided in the Residential Visual Amenity Assessment in Appendix 14.8 of the ES [TR020001/APP/5.02] be split into three different drawings. This was</p>	

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				discussed and agreed with the LVIA Working Group.	
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	C	<p>The Appendices are generally expected but require further information to ensure that they reflect comments made above, most notably the requirements for narrative explanatory text in Appendix 14.4 and 14.5 to justify judgements made, and reconsideration of assessment in Appendix 14.9 in relation to Visual Receptors in particular. Appendix 14.6 requires clear headings to identify the elements/ phases being described, along with photograph headings to help identify summer and winter views, and double-spread images.</p> <p>Photography Appendix 14.6 and 14.7. Printing distances shown and HVOF vary. Where images are split across pages, some sort of heading or reference to the connected page is needed, along with a clear title for each photo such as 'Existing summer view' or 'Existing winter view'. Appropriate cross reference should be made to these Figures from the main LVIA Chapter text where descriptive text of the view is provided.</p> <p>A selection of existing views with illustrative wirelines and block photomontages are included within Appendix 14.7. It is noted that the PEIR LVIA states under Section 14.15 "Completing the assessment" that <i>"Photomontages from three viewpoint locations that show the effectiveness of proposed landscape mitigation ahead of construction for assessment Phase 2a and at the year of maximum passenger capacity"</i> It</p>	<p>The Detailed Landscape Impact Assessment at Appendix 14.4 and Detailed Visual Impact Assessment in Appendix 14.5 of the ES [TR020001/APP/5.02] include additional narrative explanatory text to justify the judgements made.</p> <p>A heading reference to the connected page has been added into the Winter and Summer Viewpoint Photographs and Accurate Visual Representations provided at Appendices 14.6 and 14.7 of the ES [TR020001/APP/5.02] wherever images are split across pages.</p> <p>A title clarifying whether existing viewpoint photography was taken in Summer or Winter has also been added into the Viewpoint Photographs provided at Appendices 14.6 of the ES [TR020001/APP/5.02].</p> <p>Appropriate cross referencing to the viewpoints provided within Appendices 14.6 and 14.7 of the ES [TR020001/APP/5.02] is included within the detailed assessment provided in the Detailed Landscape Impact Assessment in Appendix 14.4 of the ES [TR020001/APP/5.02].</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			is assumed that the three photomontages, the methodology for their creation, verification, and reasons for selection will be fully outlined in the ES LVIA.	<p>The methodology for creating and reasons for selecting the three photomontages showing the effectiveness of the proposed landscape mitigation is fully outlined in the LVIA Methodology in Appendix 14.1 of the ES [TR020001/APP/5.02].</p> <p>Please refer also to responses 2.4, 2.7 and 3.2 above.</p>	
Conclusion					
	Legislation, Policy and Guidance	B	Minor updates required and further updated as necessary within the ES LVIA, depending on submission timescales.	Please refer to response 1.1 above.	Yes
	Baseline Information	C	<p>Further clarity is needed on the study area, with the various extensions clearly shown on a plan and cross referenced within the text</p> <p>Further information is required on tranquillity, lighting and designated landscapes (registered parks and gardens, AGLV / ALLV, Conservation Areas, and AONB extension area)</p> <p>Distinction between Visual Receptors and the views they experience is required, with appropriate cross referencing to the representative viewpoints provided</p> <p>Improved cross referencing of findings of the Preliminary Light Obtrusion Assessment, Chilterns AONB Sensitivity Test and residential visual amenity appraisal within the main ES LVIA</p>	Please refer to responses 2.1 to 2.9 above.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Mitigation, Enhancement and Monitoring	B	Clarity is required on the following: Further detail within the ES LVIA and Final LBMP on management and maintenance responsibilities and activities over time for each area, particularly in relation to Wigmore Valley Park Specific offsets to protect existing landscape features. Identification of potential enhancement measures	Please refer to responses 3.1 to 3.5 above.	No
	Assessment of Significant Effects	C	The following is required: Clarity over the methodology – evaluating the sensitivity of receptors (value/ susceptibility) particularly for visual receptors, and the subsequent significance of effect Consideration of tranquillity, lighting and designated landscapes Clarity on elements scoped in or out Clarity on 'Magnitude of Change' vs 'Magnitude of Impact' 0 they are used slightly interchangeably in the main Chapter text and Appendices. A much more detailed explanation / justification of magnitude, sensitivity and significance will need to be covered in the ES LVIA.	Please refer to responses 4.1 to 4.11 above.	No
	Conclusions	B	Further clarification is required justifying approaches to the study area, phases, preparation of ZTVs / viewpoints and photomontages.	Please refer to responses 5.1 and 5.2 above.	No
	Presentation (including Figures and Appendices)	C	Study areas need to be further defined and all receptors considered within the agreed study areas. There is currently wide variation in the extent of study areas shown on Figures.	Please refer to responses 6.1 to 6.6 above.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			Appendices need to reflect the comments made above, particularly in relation to Appendix 14.9 and reflect any additional conversation with LPAs or the Chilterns Conservation Board.		

B15 Cultural heritage review checklist and summary

Note: 'Ref.' is to tables 2-31 and 2-32 of the WSP on behalf of host authorities response.

Table B15.1: Cultural Heritage

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	B	<p>The heading of Table 10:2 is 'Cultural Heritage policy' – although the NPPF in its entirety is not simply about cultural heritage policy. Please amend table heading or refer specifically to NPPF section 16.</p> <p>The heading in the first column of Table 10.4 should be 'Guidance' rather than 'Legislation'.</p>	Reference to NPPF has been amended to include Section 16 and the heading in Table 10.4 has been amended to 'Guidance' in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] .	Yes
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	C	<p>The baseline collation and sources are now listed in PEIR Chapter 10 and Appendix 10.1 (Cultural Heritage Desk-Based Assessment), Section 10.5 Methodology, however, a number of sources that should be consulted are not listed, namely:</p> <ul style="list-style-type: none"> • Aerial photographs held by the Historic England Archive in Swindon. Only on-line sources appear to have been consulted; • RAF Hendon historic airfield maps - WWII heritage assets extant and non-extant; • Defence of Britain Survey data – assets that may not have been not incorporated into the HER; 	<p>The list of sources in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] has been updated to include:</p> <ul style="list-style-type: none"> • Historic England Aerial Photo Archive • RAF Hendon and Luton airfield archive including historic airfield maps • Defence of Britain Survey data • Geotechnical borehole data available via BGS online viewer 	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<ul style="list-style-type: none"> Geotechnical information - to determine suitability for settlement and likely deposit depth and palaeoenvironmental potential. While the BGS Geology of Britain Viewer was accessed, it is unclear whether BGS historical borehole scans were fully examined and, if available, any site-specific geotechnical investigations were examined to establish the likely depth of deposits (past investigations within the site should also be used for this purpose, but again there is no evidence that this has been done). The only reference to this is in Section 5.3 of Appendix 10.1 (Cultural Heritage Desk-Based Assessment) which gives the approximate depth of the natural deposits below the topsoil within previously undeveloped areas of the site, based on historic borehole data, but gives no indication of the depth of deposits, below made ground, elsewhere, nor whether any made ground is identifiably modern or is undated; Topographic data - suitability for settlement and past truncation. While some topographic data is given in Appendix 10.1 (Cultural Heritage Desk-Based Assessment) no indication of the source of this data is given and no topographic data is listed in the information sources either in this document or PEIR Chapter 10; 	<ul style="list-style-type: none"> Topographic data available from OS maps, online sources and LiDAR sources stated in the ES <p>A summary of historic borehole data has been included in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>Topographic section of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] has been updated to include reference to the National Character Area profile which aided the description of the Application Site, and the reference has been included in the sources section.</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
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			<ul style="list-style-type: none"> Luton airfield drawing archive - services, topography, landscaping, which is important for determining past impacts; <p>While the site walkover is described in Appendix 10.1 (Cultural Heritage Desk-Based Assessment) it either needs to be described in PEIR Chapter 10 or a signpost to Appendix 10.1 added to the PEIR.</p> <p>Furthermore, even in Appendix 10.1 (Cultural Heritage Desk-Based Assessment) it is not made clear what limitations (if any) there were, and which assets were not included on the site visit. What was the level of inspection for assets visited – i.e., brief visual inspection? – plus justification and note that this will be carried out for EIA</p> <p>Also, in Appendix 10.1 the sources of some of the information/statements given needs to be added – e.g., 4.1.2, the source of the geology data is presumable BGS but this needs to be stated.</p> <p>And at the end of Appendix 10.1, in the references section a full list of sources consulted should be given – e.g., a list of the maps consulted, online websites consulted etc.</p>		
2.2	Do the data collection methods follow relevant guidance?	C	Some key data sources do not appear to have been consulted (see above).	All data sources referenced above in Reference 2.1 have been consulted and the data sources list in the Cultural Heritage Desk Based Assessment (DBA) in Appendix 10.1 of the ES [TR020001/APP/5.02] , has been updated.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
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2.3	Is the study area identified appropriately?	A	<p>The study areas appear to be appropriate, and PEIR Chapter 10, Table 10.5 confirms that the 2km study area has been approved by Historic England and the wider study area (beyond 2km) has been approved by CBC and HCC. However, no approval by LBC is mentioned, nor is it made clear that the 1km study area and the 250m study areas have been approved by the relevant LPAs. The description of the study areas also needs to be consistent in both PEIR Chapter 10 and Appendix 10.1 (Cultural Heritage Desk-Based Assessment) and it is not always. Also, the description of the 250m study area is somewhat confusing. It needs to be made clear that it is a 250m study area around each of the Off-site Highways Interventions which are located outside the 2km study area.</p> <p>The criteria used for the wider study area has been informed by the noise contour and the ZTF. What role has professional judgement taken in this wider study area? There will be occasions when it is appropriate to consider assets beyond the 2km study area for other reasons – for example, assets which were historically part of a far larger estate etc.</p> <p>In terms of the setting of above ground designated heritage assets, the criteria for including or scoping out assets should be set out in more detail in PEIR Chapter 10, as it has been in Appendix 10.1 (Cultural Heritage Desk-Based Assessment).</p>	<p>The consultation section of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02], confirms that the study areas have been agreed with Historic England and local planning authority heritage officers, including LBC.</p> <p>The description of the study areas has been made consistent between Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01], and the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02]. Description of the 250m study area has been reworded as recommended. An explanation of how the wider study area was determined is presented in Section 10.3 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] and details how assets beyond the core 2km study area were scoped into the ES.</p> <p>Section 10.3 of Chapter 10 Cultural Heritage in the ES [TR020001/APP/5.01] confirms that the spatial scope of assessment for assets that fall within the wider study area also considers impacts arising</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
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				<p>from changes to setting. For example, a proportion of Luton Hoo Registered Park and Garden (RPG) falls outside of the 2km study area and is also located outside of the area defined by noise contour data and the ZTV. However, the asset is included in the ES in its entirety because changes to one part of the asset could affect the setting and significance of the whole asset.</p> <p>Section 10.7 of the ES includes narrative explaining why assets have been scoped out of the impact assessment in Section 10.9 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] or have been included in Section 10.9 as a result of potential changes to their setting.</p>	
2.4	Have all the resources/receptors been considered?	C	<p>Some key data sources do not appear to have been consulted (see above) so it is likely that the assessment is incomplete in its identification of possible receptors; for instance, assets associated with the WW2 background of Luton Airfield which could be identified from RAF Hendon historical airfield maps and the Defence of Britain Survey as well as the HER. Furthermore, while Appendix 10.1 does outline the potential for unrecorded buried heritage assets, the PEIR does not consider these assets.</p> <p>Section 10.7 of the PEIR says that it provides a description of the existing Cultural Heritage baseline, and then sign posts Appendix 10.1</p>	<p>The list of data sources in Chapter 10 Cultural Heritage in the ES [TR020001/APP/5.01] has been updated to include all of the recommended data sources. Section 10.9 of the ES considers the potential for the Proposed Development to impact unrecorded buried heritage assets.</p> <p>Chapter 10 Cultural Heritage in the ES [TR020001/APP/5.01] has been updated to provide a summary of the</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>for a more detailed description. However, all that is in the PEIR with regards to baseline seems to be a list of assets. Ideally it would also include a brief summary of the key points from Appendix 10.1 (Cultural Heritage Desk-Based Assessment) with respect to the geology, topography and the archaeological and historical background. It also needs to state up front whether or not there are any designated heritage assets in or adjacent to the site. For all assets mentioned outside the site, it needs to state where they are in relation to the site (distance and location) and this is not always done (the same applies to Appendix 10.1). Where this section mentions assets which have been scoped out, this would have been better dealt with as a table in section 10.3.17. The reasons for saying that the settings of some of these assets do not extend into the Proposed Development site also needs to be clarified. Likewise, the reasons need to be stated for saying significant effects to the majority of these assets would not arise from the Proposed Development.</p> <p>In terms of above ground heritage assets, Appendix 10.1 Cultural Heritage Desk Based Assessment, Section 5 Assessment of Baseline, discusses heritage assets within the relevant study areas. Assets should be scoped out if the proposed development would not impact on the asset’s significance. This is made clear in a number of cases, where the DBA states that views towards the site do not contribute to the asset’s</p>	<p>baseline, including topography, geology, and archaeological / historical background. Designated heritage assets section has been updated to clarify which assets are within the site. Distances and locations have been updated throughout the ES [TR020001/APP/5.01] and the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02]. An explanation of the scoping out of assets, or their inclusion in the ES and relevant signposting, is included in Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>As discussed and resolved during the 2022 statutory consultation meeting held 30 March 2022, this is a mis-reading of the phrase. The sentence has been amended to confirm that what is meant is there are no components of the asset’s setting that are present within the Site or extend into the Site. All stated guidance has been followed and the</p>	

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			<p>significance. However, a number of other assets are scoped out as ‘The setting of the asset does not extend into the Proposed Development site. No impacts are anticipated as a result of the Proposed Development and therefore the asset is scoped out of further assessment.’ Please clarify. As per Historic England’s GPA3 on the extent of setting:</p> <p><i>While setting can be mapped in the context of an individual application or proposal, it cannot be definitively and permanently described for all time as a spatially bounded area or as lying within a set distance of a heritage asset. This is because the surroundings of a heritage asset will change over time, and because new information on heritage assets may alter what might previously have been understood to comprise their setting and the values placed on that setting and therefore the significance of the heritage asset.</i></p> <p>GPA3 also addresses extensive heritage assets (such as historic parks and gardens) which can include such factors as historic associations, again not limited by distances. This methodology informs assets scoped in for Chapter 10 of the PEIR, while the terminology is also used in Appendix 10.2 Cultural Heritage Gazetteer. Please clarify what is meant by this phrase, and why it has resulted in assets being scoped out. Text in chapter 10.1 is not referenced.</p>	<p>phrase has been amended in the Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] and the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] for clarity.</p> <p>The assessment of baseline, in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.01] includes a description of heritage assets and a description of their heritage value, including the contribution that their setting makes to their value. The baseline assessment confirmed where impacts from the Proposed Development were likely and also unlikely to arise and, as a result, heritage assets unlikely to be</p>	

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			<p>The section on Designated Assets and Non-Designated Assets is now supplemented by Appendix 10.1 Cultural Heritage Desk Based Assessment and summarised in the PEIR. However, with respect to those above ground-built heritage assets scoped out, please see above.</p> <p>The quality of some of the maps in Section 5 of Appendix 10.1 is poor, such as that of 1949–60, which also seems to be of little relevance. What do the historic estate maps tell us? It is surprising not to see these included in the report, especially for Luton Hoo, as these may shed light on the relationship between Luton Hoo and Someries Castle for example (see paragraph 5.1.8).</p> <p>Para 4.3.45 of Appendix 10.1: please note reference should be to ‘Sir John Wenlock’ in discussing the owner of Someries Castle. Para 4.3.61 of Appendix 10.1: need to elaborate if possible, on the extent of the damage to Luton Hoo house in 1843. Setting of Someries Castle at para 5.1.4 of Appendix 10.1: why do long views out from the asset not form part of its setting? Impact of Luton Airport on setting needs elaboration. Make sure consistency in descriptions of setting in Appendix 10.1 and PEIR. For example, the PEIR states that surrounding agricultural buildings detract from the setting</p>	<p>affected were scoped out of the ES. The assessment for scoping out assets from the ES is detailed in Section 5 of the DBA, summarised in in Section 10.7 of the ES [TR020001/APP/5.01] and also summarised in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02].</p> <p>Maps, including estate maps, are included in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] and are reproduced as standalone figures which has improved resolution.</p> <p>Reference to Sir John Wenlock is included in Section 4.4 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02].</p> <p>Setting of Someries Castle is discussed in Section 5.1 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02]. Long views do not form part of its setting principally due to its domestic rather than defensive function, as stated in Section 10.9 of Chapter 10 Cultural Heritage of the ES</p>	

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			<p>of Someries Castle - as per GPA3 settings do change, so please explain. Please note the terminology lapses into 'listed' for registered parks and gardens at points throughout the text in the PEIR and Appendix 10.1.</p> <p>Has the current East Midlands main line been considered in terms of asset setting? Section 10.7.25 mentions three Areas of Archaeological Significance, but for two of them does not say why they have been defined. This needs to be added both here and in Appendix 10.1 (Cultural Heritage Desk-Based Assessment).</p> <p>Section 10.7.26 – 30 summarises the past investigations in the site. It would be helpful if the PIER and Appendix 10.1 could indicate where in the site the archaeological evidence was found. It would also be helpful if the PEIR could briefly summarise what was found in the past investigations, and also what kind of investigations they tended to be (e.g. mainly limited in scope – non-intrusive, evaluations, watching briefs - rather than excavations).</p>	<p>[TR020001/APP/5.01]. This has been added to the DBA for completeness.</p> <p>The East Midlands line has been added to the descriptions of asset's settings, where relevant, in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] and in the impact assessment in in Section 10.9 Chapter 10 of the ES [TR020001/APP/5.01]</p> <p>Reasons for the areas of archaeological significance are explained in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02].</p> <p>A summary of previous investigations is included in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] and Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01], including locations of investigation in relation to the Site.</p>	

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2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	The value criteria are set out in Table 10.7. This is derived from the Design Manual of Roads and Bridges and is generally acceptable for EIA. As noted, the NPPF defines scheduled monuments, protected wreck sites, registered battlefields, Grade I and II* listed buildings, Grade I and II* registered parks and gardens, and World Heritage Sites, as being of the 'highest value.' It does not assign these as being simply of high significance. Again, if based on the DMRB criteria, would suggest that World Heritage Sites are considered as assets of very high significance,	The value criteria do not derive from DMRB. As stated in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] , the value of heritage assets is guided by their designation and by their heritage interests as defined by the NPPF.	No
2.6	Has there been consultation with the relevant statutory bodies?	A	The consultation is appropriate.	Noted.	No
2.7	Is the future baseline scenario adequately described?	B	This has been added to PEIR Chapter 10, however future scenarios and potential impacts are not described in any detail in the PEIR, beyond a short section at paras 10.7.36 to 10.7.37. Also, we suggest that the following is added: For buried heritage assets within the Site, the future baseline is expected to be the same as the present. Such remains are a static resource, which have reached equilibrium with their environment and do not change (i.e., decay or grow) unless their environment changes as a result of human or natural intervention. For the above ground heritage assets within	The recommended text has been added to Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] .	Yes

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			the Site, there may be some decay over time in the absence of the Proposed Development.		
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	<p>There is still no information on the limitations encountered on the site walkover inspection, i.e. areas that were not accessed either in PEIR Chapter 10 or Appendix 10.1, though both do mention that further walkover surveys will be conducted to inform the ES, so it is assumed that to date not all areas have been accessed.</p> <p>There is a discrepancy between PEIR Chapter 10 and Appendix 10.1 in the number of previous archaeological investigations in the site. The PEIR says 9 whereas Appendix 10.1 says 11. It would be helpful if both can state what kind of investigations have mainly been conducted in the site and study area (e.g. mainly limited in scope – eg non-intrusive, watching briefs) so that one can judge whether the area is well-understood archaeologically, or is our understanding limited? This is important as it affects how confident we can be in assessment of archaeological potential. The HER alone is unlikely to present an accurate picture of the full extent of past human activity, and this needs to be recognised in this section.</p>	<p>Clarification has been added to Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] to confirm there were no limitations to the assessment.</p> <p>The number of previous archaeological investigations has been updated. The requested information is included in Section 4.3 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02].</p>	Yes
2.9	Which are the key receptors for the local authorities?	A	Potential key receptors have been identified through consultation with local authorities and identified in Table 10.6 of PEIR Chapter 10.	Noted.	No

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3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	B	<p>A summary of the embedded mitigation measures is given in PEIR Chapter 10 (Section 10.8) but is mainly focussed on embedded measures for archaeological remains. There is currently little coverage to built heritage and any embedded mitigation to offset operational stage effects on setting of these assets. Furthermore, this section references Appendix 10.6 (CHMP) for more information on archaeological mitigation at the construction stage. This deals only with archaeological mitigation measures, though we understand that further strategies for managing impacts to built heritage are still to be discussed with key stakeholders and will be included in the final Cultural Heritage Management Plan (CHMP), Appendix 10.6.</p> <p>In the PEIR the assessment of impacts from the Proposed Scheme to buried archaeology (and therefore presumably mitigation measures) has been limited to undesignated assets recorded on the HER and identified from aerial imagery and LiDAR. No mention has been made of any previously unrecorded assets that may be present within the site, for instance Appendix 10.1, Section 5.4 concludes that, in addition to high potential for Roman remains there is medium to high potential for prehistoric remains, medium to high potential for later medieval remains, high potential for post-medieval remains (including demolished buildings) and high potential for</p>	<p>There is no suitable embedded mitigation for built heritage assets. This position is clarified in Section 10.10 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes assessment of impact for previously unrecorded assets in the Site and proposes mitigation where impacts are anticipated.</p> <p>The Cultural Heritage Management Plan (CHMP) in Appendix 10.7 of the ES [TR020001/APP/5.02] includes measures for encountering unexpected archaeological assets during construction.</p> <p>Section 10.10 of the PEIR was dependent on the outcome of</p>	No

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			<p>modern (WW2) remains. Consideration needs to be given to impacts from the Proposed Development on these remains, and any associated mitigation.</p> <p>Also, section 10.10 of PEIR Chapter 10 seems to include some embedded mitigation measures (eg fencing).</p>	<p>additional trial trenching, which is now completed. The results confirm that embedded mitigating via fencing is not required and the ES [TR020001/APP/5.01] has been updated to reflect this.</p>	
3.2	Are the mitigation measures included for significant adverse effects appropriate?	B	<p>The mitigation measures included in PEIR Chapter 10 and Appendix 10.6 are considered appropriate but see above comment (3.1) in relation to built heritage.</p> <p>Is there any more information available to inform para 10.8.4 of the PEIR? How will the historic landscape be enhanced?</p>	<p>There is no suitable embedded mitigation for built heritage assets as mitigation measures, for example noise insulation / double glazing, would lead to physical impacts to the fabric of the buildings and is not a suitable proposal. This position is clarified in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p>	No
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibilities for their delivery lies, where possible at this stage?	B	<p>The PEIR is supported by Appendix 10.6 CHMP. The CHMP provides a general mitigation approach, for archaeology only. It also appears to contain elements of a Written Scheme of Investigation (WSI). A WSI is a scope and method statement for a specific agreed programme of field investigation, rather than a management strategy that one would expect in a CHMP. As stated in Section 3.1 we understand that further strategies for managing impacts to built heritage are still to be discussed with key stakeholders and will be included in the final CHMP.</p>	<p>The content of the Cultural Heritage Management Plan (CHMP) in Appendix 10.6 of the ES [TR020001/APP/5.01] has been updated as the results of additional trial trenching confirms that management of archaeological remains during construction is not a requirement.</p> <p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] assesses minor adverse (not significant) effects for Someries Castle and management strategies are therefore not proposed. This has been discussed and agreed with heritage</p>	No

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				stakeholders during the production of the CHMP.	
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	A	PEIR Chapter 10 refers readers to Appendix 10.6 which sets out monitoring requirements during the construction in respect of archaeological remains where in situ preservation is planned. It does not set out why monitoring requirements are not required for built heritage at construction phase, which might be considered appropriate for Someries Castle, for example. It states that no monitoring of cultural heritage assets is required during the operational stage, which also seems surprising in the case of Someries Castle. A summary of the monitoring requirements would, however, be helpful in PEIR Chapter 10.	Monitoring is not proposed for built heritage assets at construction stage, including Someries Castle, because the data presented in Chapter 16: Noise and Vibration of the ES and summarised in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] confirms that ground vibration would be imperceptible from built heritage assets resulting in no impact.	No
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	C	The list of known or potential receptors is incomplete, or at least does not explain why some have been scoped out (see Section 3.1 above). It is noted that other than for those archaeological remains for which in situ preservation is proposed, the details of the areas for excavation/monitoring will be agreed with the LPAs following further archaeological evaluation. Mitigation measures, tailored to each asset potentially affected, should be set out in the ES. Mitigation measures with regard to built heritage are still to be discussed. Further information on an appropriate landscape	The list of heritage assets scoped out of the ES is detailed in Section 5 of and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] . Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] has been updated and includes narrative explaining why assets have been scoped out, or included in the impact assessment in Section 10.9 of the ES	Yes

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			strategy needs to be supplied beyond that at para 10.8.4 of the PEIR.	Mitigation measures are set out in Section 10.10 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] .	
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	The methodology of assessment is made clear.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	The magnitude of effect (termed impact in PEIR Chapter 10) has been clearly defined.	Noted.	No
4.3	Are the methods for evaluating significance clearly defined?	B	See comment in 3.1 regarding assessments of significance.	Assessment of significance of heritage assets is detailed in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] and for those heritage assets assessed in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] .	No
4.4	Do the assessment methods used follow relevant guidance?	B	The methodology of assessment follows relevant guidance. Overall assessments of significance are not detailed in Appendix 10.1.	Assessment of significance of heritage assets is detailed in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] and for those heritage assets assessed in Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.02] .	No

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4.5	Have potential effects been considered both during construction and operation?	C	<p>As detailed in 3.1 the assessment of impacts from the Proposed Scheme to buried archaeology has been limited to undesignated assets recorded on the HER and identified from aerial imagery and LiDAR. No mention has been made of any previously unrecorded assets of different periods which may be present within the site, for instance</p> <p>Appendix 10.1, Section 5.4 concludes that, in addition to high potential for Roman remains there is medium to high potential for prehistoric remains, medium to high potential for later medieval remains, high potential for post-medieval remains (including demolished buildings) and high potential for modern (WW2) remains. Consideration needs to be given to impacts from the Proposed Development on these remains, or at least an explanation of why they have been scoped out from the PEIR (i.e. on the basis that no significant effect is anticipated). A detailed assessment of impacts, eg assessing the impact of each below ground works, eg proposed foundations, new services, new hard & soft landscaping etc has not been included in the PEIR. This should be included in the ES and would be helpful to have in the PEIR also as it will allow consultees to understand the impacts and comment before the ES.</p> <p>The gazetteer (Appendix 10.2) now provides less detail than the 2019 gazetteer with</p>	<p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes assessment of impact of assets, including previously unrecorded assets in the Site, and proposes mitigation where impacts are anticipated.</p> <p>Section 10.7 of the ES contains a summary of those assets scoped out of the impact assessment and the reasons for their scoping out. An assessment of impact arising from different construction activities of the Proposed Development is set out in 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>The list of heritage assets scoped out of the ES is summarised in Sections 5 and 6 of the Cultural Heritage</p>	Yes

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			<p>regard to reason for scoping assets in or out. It important that justification for scoping out elements from the EIA is clearly given. The numbers of built heritage assets which are fully assessed still appears to be low. This refers back to the criteria for scoping assets out of the assessment, as outlined in Appendix 10.1.</p> <p>With respect to built heritage, the PEIR and Appendix 10.1 (and summarised in Appendix 10.2 cultural heritage gazetteer) assess temporary construction impacts to the setting of designated heritage assets in great detail, so that the assessments are dominated by these temporary settings impacts. On the whole, such settings impacts are regarded as temporary and not significant –please clarify why so much of the impact assessment is dedicated to these impacts? They are normally only considered if they are of a long duration. The reports should concentrate on any potential physical impacts (see comments on Someries Castle) and on long-term permanent impacts to the setting of heritage assets.</p> <p>As per comment 3,4, should construction impacts to Someries Castle be monitored,</p>	<p>DBA in Appendix 10.1 of the ES [TR020001/APP/5.02], and also summarised in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02]. Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes narrative explaining why assets have been either scoped out of or included in the impact assessment in Section 10.9 of Chapter 10 Cultural Heritage.</p> <p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] has been updated to reflect the temporary nature of the impacts to heritage assets during construction.</p> <p>Construction impacts to Someries Castle are discussed in Section 10.9 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01]. Significant effects are not anticipated and therefore monitoring during construction is not required.</p> <p>Noise and vibration impacts to Someries Castle, as well as noise impacts to assets in the study area, including Luton Hoo registered park and garden, are assessed in Section 10.9 of Chapter 10 Cultural Heritage, of the ES and also</p>	

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			<p>considering the condition of the asset and distance from the site?</p> <p>Noise and vibration impacts to Someries Castle, as well as noise impacts to assets in the study area, e.g. Luton Hoo registered park and garden, need to be discussed in more detail.</p>	Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].	
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	C	<p>For archaeological remains the magnitude of impact has been considered in PEIR Chapter 10, as well as the duration and significance of effect. Reversibility is not relevant in relation to archaeology. However, as mentioned above, the list of archaeological assets considered is not complete, or at least an explanation needs to be added of why assets have been scoped out.</p> <p>As per comment 4.5. much of the impact assessment in the PEIR addresses temporary settings impacts at construction phase. The assessments in the PEIR and Appendix 10.1 should detail any potential impacts at construction phase to assets such</p>	<p>Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes narrative explaining why assets have been either scoped out of or included in the impact assessment in Section 10.9 of Chapter 10 Cultural Heritage.</p> <p>Further information on the scoping out of assets at baseline assessment stage is detailed in Section 5 and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02], and also in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02].</p> <p>Section 10.9 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes assessment of potential temporary and permanent impacts at construction and potential permanent impacts during operation.</p>	Yes

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			<p>as Someries Castle, as well as on permanent settings impacts at operational phase.</p> <p>The PEIR concludes that there are temporary moderate adverse impacts to the setting of Luton Hoo registered park and garden. Please clarify why the impacts are temporary and not permanent</p>	<p>The potential impacts to Luton Hoo RPG arise from visual intrusion of construction equipment, such as tower cranes. The impact would last for the period of construction and is therefore temporary. The effect assessed in the ES is minor adverse and not significant.</p>	
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	C	<p>These are described in PEIR Chapter 10, but as mentioned above, the list of archaeological assets considered is not complete, or at least an explanation needs to be added of why assets have been scoped out.</p> <p>Please re-assess whether there are any significant potential construction or operational phase impacts to Someries Castle.</p>	<p>The list of heritage assets scoped out of the ES is detailed in Section 5 of and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02], is also summarised in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02]. Explanation and signposting has been added to Section 10.5 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>Potential construction and operational impacts to Someries Castle have been re-assessed in Section 10.9 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] using noise, vibration, air quality and visual impact data that have been updated for the ES.</p>	Yes
4.8	Are the residual significant effects clearly stated?	C	<p>It is clearly stated, but again, as mentioned above, the list of archaeological assets considered is not complete, or at least no</p>	<p>Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes</p>	Yes

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			<p>reason has been given why some assets have been scoped out. Also, normally, the residual effect following appropriate mitigation (eg excavation) is negligible, since it has been preserved by record, rather than moderate adverse as given in 10.11.4.</p> <p>No indication of residual effects on built heritage is given in Section 10.11 of PEIR Chapter 10 and it should be. No mitigation is proposed. Residual effects are however summarised in Table 10.10.</p>	<p>narrative explaining why assets have been either scoped out of or included in the impact assessment in Section 10.9 of Chapter 10 Cultural Heritage.</p> <p>Further information on the scoping out of assets at baseline assessment stage is detailed in Section 5 and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02], and also in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02].</p> <p>Residual effects are discussed in Section 10.11 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01]. No mitigation is proposed for the effects during construction as these impacts would be temporary. This is clarified in the ES.</p>	
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	<p>This has not been covered in Chapter 10 of the PEIR but instead has been covered in Chapter 21. Chapter 21 only covers designated assets. A statement needs to be included for archaeology, even if it is just to say that <i>'This has been scoped out. Cumulative effects are 'elevated' effects which occur where the combined effect of the Proposed Development with other proposed</i></p>	<p>All assets, designated and non-designated, were considered for cumulative impacts. The methodology for assessing cumulative effects, including the criteria for including assets in or out of the cumulative assessment, is included in Section 10.5 of Chapter</p>	Yes

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			<p><i>schemes in the vicinity, on a discrete and significant shared buried heritage asset, is more severe than that reported at the Proposed Development site. This is on the basis that for intangible and deeply buried heritage assets it is not feasible to quantify accurately the nature of the resource across the study area, which would enable the identification of a cumulative impact and potential elevated effect'.</i></p> <p>In addition, 10.3.12 of the PEIR talks about the Zone of Influence for the cumulative assessment, but since the cumulative assessment is not given in Chapter 10 would this be better placed in Chapter 21?</p>	<p>10 Cultural Heritage of the ES [TR020001/APP/5.01].</p> <p>The ZoI for each discipline is defined in each chapter as appropriate. This is then used in the cumulative assessment.</p>	
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	B	<p>The uncertainties in the design and assessment have been recognised in Section 10.6 of PEIR Chapter 10 in relation to archaeological mitigation in Section 10.10 and Appendix 10.6. However, in Section 10.6 it would also be worth mentioning that the main limitation is the nature of archaeological resource - buried and not visible which means it can be difficult to predict the presence and likely significance of buried assets accurately, and consequently the impact upon them, based primarily on a desk-based sources. The principal source of information is the Historic Environment Record (HER), which list all known archaeological sites and finds. The information provides an initial indication of archaeological potential rather than a definitive list of all potential buried heritage assets, because the full extent of a buried</p>	<p>The presence and likely significance of potential archaeological remains has been assessed not just through the Historic Environment Record (HER) but also from results of geophysical and trial trench evaluation.</p>	Yes

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			heritage resource cannot be known prior to site-specific archaeological field investigation. Please detail which assets would be included in any further site walkovers. All assets scoped in have presumably been included in previous site visits.	Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] has been updated to confirm that all assets included in the assessment were visited during the site walkover surveys.	
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	A	This is detailed in Table 10.5 of PEIR Chapter 10.	Noted.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	C	No conclusions or summary in PEIR Chapter 10. The list of archaeological assets assessed is incomplete, or at least no reason has been given why some assets have been scoped out. Please see comment 4.5. about numbers of built heritage assets scoped out. The conclusions in Appendix 10.1 are insufficiently detailed.	The list of heritage assets scoped out of the ES is presented in more detail in Section 5 of and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] , is also summarised in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02] .	Yes
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	C	This is presented in Table 10.10 but as noted above the list of archaeological assets assessed is incomplete, or at least no reason has been given why some assets have been scoped out. Summary of significant effects on built heritage reflects the current level of detail given to addressing temporary settings impacts.	Section 5 of and summarised in Section 6 of the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] , is also summarised in the Cultural Heritage Gazetteer in Appendix 10.2 of the ES [TR020001/APP/5.02] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6	Reporting				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	C	<p>The PEIR appears to be unbiased, balanced and fairly transparent, but not comprehensive since the list of archaeological assets assessed is incomplete (or at least no reason has been given why some assets have been scoped out) and also a number of aspects are not included, most particularly the baseline and an assessment of archaeological potential for each chronological period. These are only covered in Appendix 10.1 whereas a summary would be helpful in the PEIR itself. In addition, some key sources of information appear to be missing.</p> <p>The PEIR is potentially not comprehensive in terms of built heritage, as there should be a review of assets scoped out. For example, as noted at comment 2.4, a number of assets have been scoped out as ‘The setting of the asset does not extend into the Proposed Development site. No impacts are anticipated as a result of the Proposed Development and therefore the asset is scoped out of further assessment.’ This needs to be clarified.</p> <p>The level of detail and space given to temporary impacts to setting (resulting in temporary adverse effects) is inappropriate. The PEIR and appendix 10.1 should concentrate on any potential physical impacts caused by construction activities and to</p>	<p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] presents a comprehensive assessment which includes consideration of all relevant heritage assets. Section 10.7 of includes narrative explaining why assets have been either scoped out of or included in the impact assessment. The DBA Appendix 10.1 of the ES [TR020001/APP/5.02] has been updated and a summary of the baseline has been added to Chapter 10 Cultural Heritage of the ES as contextual information.</p> <p>Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] has been updated to reflect the temporary nature of the impacts during construction.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			permanent settings impacts at operational phase.		
6.2	Is the PEIR readable to the audience for which it is intended?	A	The PEIR is considered readable for the audience for which it is intended but as detailed above, is missing some crucial information which can aid understanding.	Additional data sources recommended by 2022 statutory consultation comments have been consulted and included in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] which has informed the impact assessment in Chapter 10 Cultural Heritage. Furthermore, to aid in the understanding of assets that are included/ not included in the ES, Section 10.7 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01] includes narrative explaining why assets have been either scoped out of or included in the impact assessment in Section 10.9 of Chapter 10.	No
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	The NTS is clear and free from technical jargon.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	The NTS reflects what is in the PEIR, but therefore suffers from the same issues. The NTS context also appears to concentrate on archaeology rather than both archaeology and built heritage equally.	The ES NTS [TR020001/APP/5.04] has been updated to equally reflect built heritage assessment scope.	Yes
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or	C	Figures 10.1 – 10.2 are as expected. It would be helpful if Appendix 10.1 included Figures 10.1 - 10.5, as well as a location plan so it can operate as a stand-alone document.	Figures have been updated and are included in the Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] as a stand-	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Volume 3? – Please provide further commentary if required.		<p>Photographs from the site walkover inspection are included in Appendix 10.1. No visualisations are included. The numbers of photographs seem quite limited for a study area of this size.</p> <p>Some historical Ordnance Survey mapping is included in Appendix 10.1, but it would be helpful if the site boundary was shown on the mapping. Some of the figures reproduced in Appendix 10,1 are of a poor quality.</p> <p>There are no title or historical estate maps (e.g., Luton Hoo) reproduced. Non-Ordnance Survey mapping is not included.</p>	<p>alone document. Historic OS mapping has been updated and is included as figures, with the site boundary plotted. Historic estate maps have been updated from the archives and are include with the DBA.</p> <p>Visualisations, showing components of the Proposed Development in views from Someries Castle and Luton Hoo RPG, are presented in Figures 10.13 to 10.18 [TR020001/APP/5.03] of the ES.</p>	
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	<p>The PEIR is now supported by a Historic Environment Desk-Based Assessment technical appendix (Appendix 10.1). It would be helpful if Appendix 10.1 operated as a stand-alone document, however, and included the figures detailed above, as well as the gazetteer in Appendix 10.2. For built heritage, It should also include an overall assessment of asset significance, an assessment of the contribution that setting makes to asset significance.</p>	<p>The Cultural Heritage DBA in Appendix 10.1 of the ES [TR020001/APP/5.02] has been updated to present a standalone document and includes the figures referenced in 6.5. The DBA includes assessment of significance, including contribution made by setting. This is also included in Section 10.9 of Chapter 10 Cultural Heritage of the ES [TR020001/APP/5.01].</p>	Yes
Conclusion					
	Legislation, Policy and Guidance	A		Refer to response at 1.1	No

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
	Baseline Information	C	<p>The baseline narrative is incomplete and lacks detail. Even though further details in Appendix 10.1 are sign-posted, a summary of the key points of the baseline would also be helpful in the PEIR, to aid interpretation. Not all receptors have been identified in the PEIR (though they have been identified in Appendix 10.1). The PEIR should include a clearer rationale to why certain factors have been scoped out (ie why are the impacts unlikely to be significant?). Some important gaps in baseline sources are also noted. Appendix 10.1 (section 5.3) talks about previous ground disturbance and its impact on archaeological survival but some possible impacts are missing – eg modern deep ploughing, basements, if any, foundations etc.</p> <p>Turning specifically to built heritage, there are concerns about the reporting of impacts in the PEIR. The assessment concentrates on temporary settings impacts at construction phase, which are normally scoped out as they are not considered significant. Please clarify how a temporary setting impact to the Luton Hoo registered park and garden can be assessed as temporary moderate adverse? This might be the case if the construction phase goes on for an extended period of time. Is it the permanent setting impact to the registered park and garden which is potentially moderate adverse? And what impacts do noise and vibration have to this asset?</p>	Refer to responses for 2.1 - 2.9	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>Please elaborate on potential construction phase impacts to Someries Castle. It would be useful to have more detail as to why this is not considered significant.</p> <p>Is there the potential for significant noise/vibration/visual impacts to Someries Castle at operational phase?</p> <p>The desk based assessment at appendix 10.1 is not sufficient as a standalone document. There are no sources referenced in the text, no historic maps or plans, and no overall assessments of heritage asset significance or assessments of the contribution of setting to the significance of heritage assets. The findings of the desk based assessment should inform the PEIR – but this is not the case with appendix 10.1. There also needs to be a review of assets scoped out.</p> <p>Note should also be made of response received from Central Bedfordshire Council (dated 4 March 2022, ref: CB/22/00495/OAC) with respect to Someries Castle and Luton Hoo registered park and garden. This should be addressed going forward.</p>		
	Mitigation, Enhancement and Monitoring	C	<p>The list of baseline assets potentially affected is incomplete and therefore potentially the mitigation, enhancement and monitoring measures, or at least a rationale for scoping them out is not given, or in the case of a number of built heritage assets, not adequately given.</p> <p>Though the CHMP (Appendix 10.6) is sign-posted for additional archaeological</p>	Refer to responses for 3.1 – 3.5	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			mitigation a summary would be helpful in the PEIR.		
	Assessment of Significant Effects	C	<p>The list of baseline receptors and effects is incomplete; therefore the assessment of significant effects is likely to be incomplete. Tabulate and describe the full list of known and potential heritage assets affected by the proposed development at construction and operation stages and explain, or explain in further detail with reference to settings impacts, why some are scoped out. The PEIR currently concentrates too much on temporary settings impacts. It is potential physical impacts at construction phase and permanent settings impacts at operational phase which need to be addressed in more detail.</p> <p>Also, normally, the residual effect following appropriate mitigation (e.g., excavation) is negligible, since it has been preserved by record, rather than moderate adverse as given in 10.11.4.</p>	Refer to responses for 4.1 – 4.11	No
	Conclusions	C	There is no 'Conclusion' section.	Refer to responses for 5.1 - 5.2	No
	Presentation (including Figures and Appendices)	C	<p>Reproduce pre- Ordnance Survey 1st edition historic mapping, such as Tithe, enclosure and estate maps.</p> <p>Reproduce visualisations for the purposes of presenting how the setting of assets was assessed.</p> <p>Revise the CHMP (Appendix 10.6) so that it does not include text from a WSI.</p> <p>Revise desk-based assessment (Appendix 10.1) so that it operates more like a</p>	Refer to responses for 6.1 – 6.6	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			standalone document with clear referenced material, a location plan, key figures, gazetteer.		

B16 Major accidents and disasters checklist and summary

Note: 'Ref.' is to tables 2-33 and 2-34 of the WSP on behalf of host authorities response.

Table B16.1: Major Accidents and Disasters

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	Chapter 15 refers to the following: Legislation: Health and Safety (H&S), Planning, fire safety and aviation safety. Policy: National Policy Statements, Airports National Policy Statement (ANPS), Aviation and local council plans. Table 15-4 details ANPS requirements relevant to MA&D and how these are addressed in the PEIR. Guidance: Currently there is no published and agreed guidance for EIA MA&D assessments, therefore PIER references analogous HSE's Reducing Risks, Protecting People (R2P2) and major hazards; Department for Transport (DfT) & Department for Environment, Food and Rural Affairs (DEFRA); European Union Aviation Safety Agency (EASA) & Civil Aviation Authority (CAA) and Institute of Environmental Management and Assessment (IEMA) guidance.	Noted.	No
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	A	Described in paragraphs 15.5.7 and 15.5.8.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.2	Do the data collection methods follow relevant guidance?	A	Yes, in paragraphs 15.5.8, 15.5.11 and 15.5.20. Aligns with current developing practice as there is no published guidance.	Noted.	No
2.3	Is the study area identified appropriately?	A	Yes, in paragraphs 15.3.6 and 15.3.7 and illustrated in Figures 15.1 and 15.2. Also, the study area (or Zone of Influence) of each MA&D hazard scoped into the assessment is listed within Appendix 15-1 Environmental Risk Record.	Noted.	No
2.4	Have all the resources/receptors been considered?	A	Yes, in paragraphs 15.5.10 and 15.5.11. Those listed align with requirements of the EIA Regulations and appear appropriate for the Proposed Development. Further details of specific sensitive receptors are provided in paragraphs 15.7.26 – 15.7.38.	Noted.	No
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	A	Yes, paragraphs 15.5.23, 15.5.24 and Table 15.8 provide a summary of the categories used in the MA&D assessment. Further detail of these definitions is provided in Appendix 15-1 Environmental Risk Record (Volume 3 of the PEIR).	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	A	Yes, described in Table 15-7 Stakeholder Engagement relating to MA&D. The range and level of engagement reflects the stage of the Proposed Development.	Noted. Additional technical stakeholder engagement has been completed to finalise the assessment included in Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01] .	No
2.7	Is the future baseline scenario adequately described?	A	Yes, paragraphs 15.7.7 – 15.7.10 describe the future baseline scenario.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	A	Set out in Section 15.6 Assumptions and limitations.	Noted.	No
2.9	Which are the key receptors for the local authorities?	A	The sensitive receptors are set out in paragraphs 15.7.26 – 15.7.38	Noted.	No
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	A	Yes, “Section 15.8 Embedded and good practice mitigation measures” describes the mitigation measures which have been incorporated into the Proposed Development design or assumed to be in place before undertaking the MA&D assessment. In addition, a summary of the specific mitigation measures for each identified hazard are presented in Appendix 15.1 Environmental Risk Record.	Noted.	No
3.2	Are the mitigation measures included for significant adverse effects appropriate?	A	Yes, set out in Section 15.9, Table 15-12 Construction and Table 15.13 Operation. Table 15.14 identifies any additional mitigation measures that will be required and how these will be secured. Collaboration with project designers and consultation with stakeholders will be continued to ensure this remains the case as the design of the Proposed Development is progressed.	Noted. See Table 8.7 in Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01] which sets out a timeline of consultation to date.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	A	Yes, in Section 15.8. Tables 15-12 and 15-13 include a column entitled Summary of Mitigation which identifies how mitigation measures will be secured, e.g., Code of Construction Practice (CoCP), compliance with legislation, certified management systems, public safety zone.	Noted.	No
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	A	Yes, in Section 15.13, construction and operational phase monitoring requirements are identified. The identified monitoring requirements are associated with the monitoring of embedded and good practice mitigation measures.	Noted.	No
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	A	Section 15.10 identifies an additional mitigation measure which is required for one MA&D hazard to ensure the likelihood of a MA&D occurring is ALARP.	Noted.	No
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	A	These are set out in Section 15.5 Methodology, Paragraphs 15.5.16 and 15.5.17.	Noted.	No
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?	A	As set out in Paragraph 15.5.2, by definition all MA&D hazards have the potential to result in serious damage. Table 15-1 includes definition of "serious damage".	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.3	Are the methods for evaluating significance clearly defined/?	A	Yes, in Paragraphs 15.5.34 – 15.5.37 and Tables 15.10 and 15.11.	Noted.	No
4.4	Do the assessment methods used follow relevant guidance?	A	Aligns with the IEMA Primer and current developing practice as there is currently no published agreed guidance.	Noted.	No
4.5	Have potential effects been considered both during construction and operation?	A	Yes, in Section 15.9 Preliminary Assessment. Table 15.12 presents a summary of MA&D risks during construction and Table 15.13 presents a summary of MA&D risks during operation.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and significance of impacts been considered?	A	A summary of the assessment criteria is provided in Section 15.4 Methodology, with further detail included in Appendix 15-1 Environmental Risk Record (Volume 3 of the PEIR). The Environmental Risk Record considers worst case severity of harm and duration at the pre-mitigation stage whilst likelihood, tolerability and significance are considered at the - post mitigation stage.	Noted.	No
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	A	Beneficial effects are not relevant to the MA&D Chapter. A summary of the risks assessed in the Chapter are set out in the Environmental Risk Record (Appendix 15-1).	Noted.	No
4.8	Are the residual significant effects clearly stated?	A	Yes, in Section 15.9 - With the implementation of the embedded and good practice mitigation measures identified in Section 15.8, all risks associated with MA&D in the context of the Proposed Development	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			are considered to be tolerable or tolerable if ALARP (not significant).		
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	Yes, paragraph 15.7.41 contains a cumulative effects assessment, including a review of cumulative schemes within the context of the MA&D assessment. It is not clear whether new receptors or hazards associated with the new schemes have been identified as part of the PEIR or whether this is being undertaken at the ES stage.	The additional receptors assumed to come forward in the future baseline have been considered as part of the sensitive receptor groups for population and infrastructure adjacent to the Application Site (or within the Main Application Site in case of the Luton DART). Hazards associated with the Luton DART have also been considered within the assessment (e.g., refer to hazards C16, C30 and O22 as set out in Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01]). No additional new major accident hazards as a result of the schemes that are assumed to form part of the future baseline have been identified. Text within Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01] and Chapter 21 In-combination and cumulative assessment of the ES [TR020001/APP/5.01] has been clarified to reflect the above.	Yes
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	A	Collaboration with project designers and consultation with stakeholders will be continued to ensure this remains the case as the design of the Proposed Development is progressed.	Noted. This section has been reviewed and updated in collaboration with the project team and following the receipt of 2022 statutory consultation feedback to confirm that the assumptions and limitations remain valid.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.11	Has the scoping opinion been considered in the preparation of the PIER as applicable at this stage?	A	<p>Yes, Section 15.3 Scope of the assessment” includes a sub-section on the Scoping Opinion. Table 15.6 summarises the main matters raised by the Planning Inspectorate and provides details of how these have been addressed in the PEIR.</p> <p>Paragraph 15.3.4 states that final responses to the scoping opinion will be provided in the ES.</p>	Noted. The Scoping Opinion and Scoping Response [TR020001/APP/5.05] has been submitted as part of the application.	No
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	A	<p>Yes, in Section 15.9, paragraph 15.9.5, Section 15.14 and Table 15.14. All risks are considered to be tolerable or tolerable if ALARP (not significant) with the implementation of the embedded and good practice mitigation measures.</p> <p>The requirement for additional mitigation for one MA&D has been identified.</p>	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	A	Yes, in Section 15.14, Table 15-14.	Noted.	No
6	Reporting Style				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	A	Yes.	Noted.	No
6.2	Is the PEIR readable to the audience for which it is intended?	A	Yes.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	A	Yes, and set out in “Section 15 Major Accidents and Disasters”.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	A	Yes, such as “Section 15.2 Mitigation measures”, “Section 15.3 Likely significant effects” and “15.4 Completing the assessment”.	Noted.	No
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	B	Yes, Figure 15.1 illustrates the extent of the study area and identifies the existing baseline conditions. Figure 15.2 illustrates the extent of the study area and presents the location of sensitive receptors. Figure 15.3 presents the existing public safety zones.	Noted.	No
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	Yes, in Volume 3, Appendix 15-1 Environmental Risk Record.	Noted.	No
Conclusion					
	Baseline Information	Full provision.	None.	Noted.	No
	Mitigation, Enhancement and Monitoring	Full provision.	None.	Noted.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	Assessment of Significant Effects Full provision	Full provision.	None.	Noted.	No
	Conclusions	Adequate provision.	It is recommended that the Future Baseline section is updated to provide clarity around whether the new receptors or hazards associated with the new schemes have been identified as part of the PEIR or whether this is being undertaken at the ES stage.	Text within Chapter 15 Major Accidents and Disasters of the ES [TR020001/APP/5.01] has been clarified accordingly.	Yes
	Presentation (including Figures and Appendices)	Full provision.	None.	Noted.	No

B17 In- combination and cumulative effects checklist and summary

Note: 'Ref.' is to tables 2-35 and 2-36 of the WSP on behalf of host authorities response.

Table B17.1: Cumulative Effects

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the PEIR refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	Chapter 21, section 21.1 refers to legislation, policy and guidance which has informed the in-combination and cumulative effects assessment.	Noted, this has been updated where necessary and provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] .	No
2	Assessment of Significant Effects				
2.1	Are the assessment methods/techniques used identified and described?	C	The assessment methodology is described within Chapter 21, as well as Chapter 5 (Approach to the Assessment) and within specific topic chapters (Chapters 6 to 20). The assessment has been undertaken using a staged process, in line with Planning Inspectorate Advice Notes 17 (Ref. 21.6). Section 21.2.3 states that combination climate resilience impacts; greenhouse gases; health and community; and major accidents and disasters have been excluded from this assessment. An explanation of why these are excluded is given in the corresponding sections of the PEIR report (namely Chapters 9, 12, 13 and 15). Where in-combination effects assessments are relevant to these chapters, the review of the assessment methods/techniques used	Noted. The explanation of the inclusion and omission of aspects has been simplified and updated for clarity where necessary throughout Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>identified and described addressed separately within these chapters. Section 21.2.10 states that the assessments undertaken as part of this aspect chapters (refer to Chapters 6 to 20) that already inherently consider impacts from other aspect receptor, have been clearly signposted in the aspect chapters of this PEIR. These are not further considered within this chapter; this has been outlined and explained further in Table 21.3.</p> <p>Table 21.3 (Environmental aspects interactions) covers the approach to assessment of interactions. The table outlines whether a chapter has been included or omitted from the in-combination effects chapter. The table subsequently lists Chapters 6, 10, 18 and 20, as not being included.</p> <p>Recommendation: The approach to identifying which aspects are included and which aspects are omitted from the in-combination effects chapter is difficult to follow. You have listed in section 21.2.3 those which are being removed and why, then you have proceeded to rule out receptor groups (i.e., roads / highways, water bodies) based on their interactions with chapters where in-combination effects are already considered, which are also ruled out of the in-combination effects chapter. It's confusing. It needs to be clearer to the reader, which are</p>		

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			included or omitted and why. Spelling it out at the beginning would make it easier to follow. This should also be made clear in the ES.		
2.2	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	B	<p>Table 21.8 sets out how some of the comments received in the Scoping Opinion have been addressed. Many of the comments have been addressed through the PEIR or will be addressed and reflected in the ES or other DCO documents. It is worth noting that the comments in the PEIR are what is described as the ‘main comments’. Section 21.2.4 states that the final response to ‘all’ comments received during Scoping will be provided in an appropriate format in the ES.</p> <p>We consider this to be adequate provision of information at this stage.</p>	Noted, this has been updated where necessary and provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] and Scoping Opinion and Scoping Response [TR020001/APP/5.05] .	No
2.3	Have the interaction of effects and cumulative effects been considered appropriately?	B	<p>Preliminary in-combination assessments undertaken are set out both in Chapter 21 and topic chapters (Chapters 6 to 20). These effects will be considered further in the ES including details of significance as well as mitigation.</p> <p>Topic comments relating to the cumulative effects assessment are provided under question 4.9 of each topic section within this document.</p> <p>Cumulative effects are described throughout section 21. A full list of other developments is listed in appendices 21.1 and 21.2. Appendix 21.3 presents the timescales of when cumulative effects are likely.</p>	Noted, this has been updated where necessary and provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] and Appendix 21.1 Long List of Other Developments, Appendix 21.2 Short List of Other Developments and Appendix 21.3 Other Developments Temporal Gantt of the ES [TR020001/APP/5.02] .	No

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			We consider this to be adequate provision of information at this stage.		
2.4	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	A	All Appendices to be expected to support Chapter 21 have been provided. All information within the Appendices is presented well. The narrative for each known construction phase for other developments (Appendix 21.1), addresses any assumptions (i.e., overlap). It is also clear where, and in what corresponding chapter of the PEIR, assessments have been considered (i.e., Chapter 8 Greenhouse Gases).	Noted, this has been updated where necessary and provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] and Appendix 21.1 Long List of Other Developments, Appendix 21.2 Short List of Other Developments and Appendix 21.3 Other Developments Temporal Gantt of the ES [TR020001/APP/5.02] .	No
	Legislation, Policy and Guidance	A	Detailed information is currently provided on the legislation, policy and guidance which has informed the cumulative and in-combination assessment. Where topic assessments may update information relating to the policy and guidance which has informed the cumulative and in-combination assessment this should be reflected in Chapter 21, where relevant.	Legislation and policy has been updated throughout Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] where necessary.	No
	Assessment of Significant Effects	B	The review has taken consideration of EIA legislation and guidance, EIA context and influence, PEIR content and PEIR presentation. We have assessed the above and can conclude, that adequate provision of information had been provided. It is understood that full provision of information will be provided with the ES.	Noted, this has been updated where necessary and provided in Chapter 21 In combination and Cumulative Effects of the ES [TR020001/APP/5.01] and associated appendices and drawings (Appendices 21.1 – 21.3 [TR020001/APP/5.02] and Figures 21.1 - 21.4 [TR020001/APP/5.03]).	No

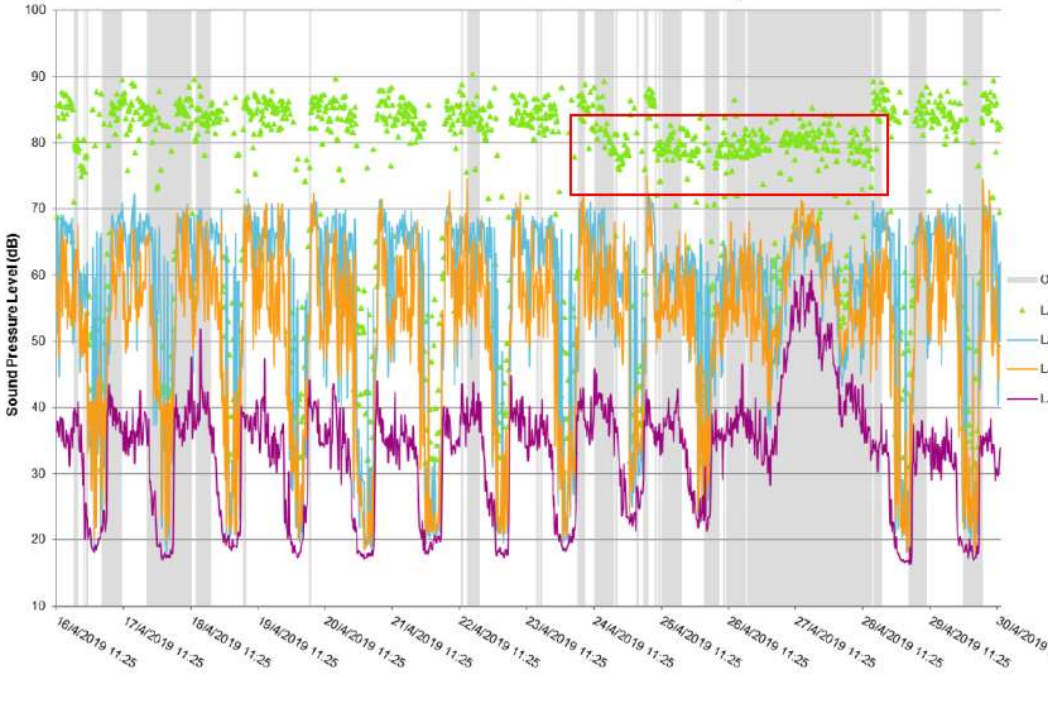
B18 SUONO noise assessment review on behalf of Host Authorities

Note: ‘Ref.’ is to paragraph numbers number in Appendix A PEIR Review – Noise and Vibration Assessment prepared by Suono on behalf of the host authorities.

Table B18.1 SUONO noise assessment review comments

Ref	Comment	Regard had to the consultee comment	Change
2.0 Baseline Conditions			
Baseline Survey			
2.1	For the previous PEIR dated October 2019 noise measurements were undertaken at the end of 2018 and beginning of 2019. These have been supplemented by further measurements later in 2019 (April-May), early 2020 (February to March) and mid-2021 (July), with no positions being re-surveyed.	<p>Noted. Commentary on any limitations due to omitted weather data in baseline noise monitoring has been provided in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].</p> <p>Noise data collected to represent ambient noise conditions has been used to provide context to the assessment of air noise. Measured noise data of individual aircraft movements has been used to validate air noise modelling and calculate baseline air noise conditions. This prediction method, in addition to baseline monitoring, is an acceptable way of defining the baseline in line with EIA Regulations.</p>	Yes
2.2	The majority of measurements between 2018 and 2019 were outside the 92-day summer period used to calculate LAeq,T day and night metrics. For the new measurements, the majority are outside this period again. As previously noted, these periods do not necessarily reflect aircraft noise during the busiest time of the year.	<p>Additionally, for receptors near to the airport, noise data has been used to set limits for fixed plant and to provide context for the construction noise assessment.</p>	
2.3	Inspection of the survey measurements set out in Appendix 16.1 (Noise and Vibration Information) shows that large periods of survey data have been omitted due to not		

Ref	Comment	Regard had to the consultee comment	Change																																																																																																	
	<p>being undertaken in the stated acceptable weather conditions. This appears to have led to small sample sizes of noise data for runway conditions at certain locations. For instance, baseline monitoring position ML2 results are set out in table T12 of Appendix 16.1 as, can be seen below:</p> <p>Table 12: Unattended Baseline Monitoring Results</p> <table border="1"> <thead> <tr> <th rowspan="3">Location</th> <th rowspan="3">Start Date (dd/mm/yy)</th> <th rowspan="3">End Date (dd/mm/yy)</th> <th rowspan="3">Airport Runway Operation</th> <th colspan="5">Measured Sound Levels (dB)</th> </tr> <tr> <th>Day</th> <th colspan="3"></th> <th>Evening</th> </tr> <tr> <th>Periods of Aircraft Activity</th> <th>L_{Aeq,12h}</th> <th>L_{ASMax}</th> <th>L_{A90,15min}</th> <th>Periods of Aircraft Activity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">ML1</td> <td rowspan="2">19/10/2018</td> <td rowspan="2">02/11/2018</td> <td>07</td> <td>3</td> <td>60</td> <td>84</td> <td>45</td> <td>3</td> </tr> <tr> <td>25</td> <td>10</td> <td>62</td> <td>84</td> <td>44</td> <td>8</td> </tr> <tr> <td rowspan="2">ML2</td> <td rowspan="2">16/04/2019</td> <td rowspan="2">30/04/2019</td> <td>07</td> <td>13</td> <td>67</td> <td>87</td> <td>36</td> <td>10</td> </tr> <tr> <td>25</td> <td>4</td> <td>61</td> <td>85</td> <td>36</td> <td>3</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="4">Evening</th> <th colspan="4">Night</th> </tr> <tr> <th>Periods of Aircraft Activity</th> <th>L_{Aeq,8h}</th> <th>L_{ASMax}</th> <th>L_{A90,15min}</th> <th>Periods of Aircraft Activity</th> <th>L_{Aeq,8h}</th> <th>L_{ASMax}</th> <th>L_{A90,15min}</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>60</td> <td>83</td> <td>46</td> <td>3</td> <td>55</td> <td>80</td> <td>41</td> </tr> <tr> <td>8</td> <td>60</td> <td>83</td> <td>46</td> <td>8</td> <td>55</td> <td>81</td> <td>43</td> </tr> <tr> <td>10</td> <td>65</td> <td>85</td> <td>27</td> <td>10</td> <td>61</td> <td>85</td> <td>23</td> </tr> <tr> <td>3</td> <td>61</td> <td>81</td> <td>31</td> <td>0</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Location	Start Date (dd/mm/yy)	End Date (dd/mm/yy)	Airport Runway Operation	Measured Sound Levels (dB)					Day				Evening	Periods of Aircraft Activity	L _{Aeq,12h}	L _{ASMax}	L _{A90,15min}	Periods of Aircraft Activity	ML1	19/10/2018	02/11/2018	07	3	60	84	45	3	25	10	62	84	44	8	ML2	16/04/2019	30/04/2019	07	13	67	87	36	10	25	4	61	85	36	3	Evening				Night				Periods of Aircraft Activity	L _{Aeq,8h}	L _{ASMax}	L _{A90,15min}	Periods of Aircraft Activity	L _{Aeq,8h}	L _{ASMax}	L _{A90,15min}	3	60	83	46	3	55	80	41	8	60	83	46	8	55	81	43	10	65	85	27	10	61	85	23	3	61	81	31	0	-	-	-	<p>Where measurements have not been taken during the busiest time and, they are considered to provide a conservative approach to assessing noise impacts as higher noise levels measured during busy periods may understate potential noise impacts.</p>	
Location	Start Date (dd/mm/yy)					End Date (dd/mm/yy)	Airport Runway Operation	Measured Sound Levels (dB)																																																																																												
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3	61	81	31	0	-	-	-																																																																																													
2.4	<p>The table above identifies that 4 days of noise levels during runway operational mode 25 have been captured. The time history for ML2, shown in the image below, suggests that at least 3 of those 4 days are omitted due to weather.</p>																																																																																																			

Ref	Comment	Regard had to the consultee comment	Change
2.5	A cursory inspection of all the measurement data reveals similar trends may also be occurring for positions ML7, ML8, ML9, ML17 and ML20. This may also be the case at all other positions, but it is less obvious as the absolute noise levels during the two runway modes are similar.		
2.6	<p>This has the potential to affect the two purposes listed for undertaking the noise surveys, those being; construction noise assessment limit derivation and supporting characterisation of the existing noise environment</p> <p style="text-align: center;">Measured Baseline Sound Levels, ML2</p> 		
Baseline Year			

Ref	Comment	Regard had to the consultee comment	Change
2.7	It must be noted that the current planning condition 10, relating to the day and night-time contour limits (in terms of LAeq,16hour and LAeq,8hour, respectively) was exceeded for both day and night in 2019. The night-time noise contour limit was also exceeded in 2017 and 2018.	<p>With reference to The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (which refers to the baseline scenario as “a description of the relevant aspects of the current state of the environment”), it is considered appropriate to continue to model the noise impact that occurred in 2019 using actual air traffic movement data to represent the ‘current baseline’.</p> <p>The 2019 noise contour has been validated using airport noise monitoring terminal data collected in the 2019 92-day summer period.</p> <p>However, a sensitivity test using a ‘2019 Consented’ baseline (derived for this purpose by adjusting the fleet mix that occurred in 2019 to reach a modelled noise impact that would sit within the condition 10 limits referred to in Suono’s comments) is presented in the in Appendix 16.1 Noise and vibration information of the ES [TR020001/APP/5.02].</p>	Yes
2.8	Passing comment is made to these exceedances in 2019 throughout the PEIR but not of the implications arising from them. This does not affect the comparison of Do-Something vs. Do-Nothing in later years. It does, however, affect the comparisons made of noise impacts when showing the reduction in those affected by SOAEL, for instance, between 2043 and 2019, as any 2019 values are above what they should be if the airport were operating within its consented limits.		
2.9	No attempt has been made to recreate the 18 mppa scenario leading to the noise contour limits set out in condition 10, so that the relevant comparison can be made. This recreation is necessary as the limit contours were calculated using INM, and this application correctly uses its successor software AEDT		
2.10	Using the same inputs as the 18 mppa scenario would allow for a reasonable comparison of noise impact in the future compared to what is currently permitted in condition 10, as well as allowing a comparison between the existing INM and new AEDT contour areas.		
Other 2019 Statutory Consultation Comments			
2.11	For the 2019 statutory consultation we previously commented that no baseline noise measurements were presented for schools. Measurements have now been undertaken	Noted.	No

Ref	Comment	Regard had to the consultee comment	Change
	at one school, expected to be the worst-case. We note, however, that they may be subject to the comments on the baseline noise surveys made above.		
2.12	We also commented on differing runway modal splits having been used in the 2019 statutory consultation modelling. All modelling is now based on a 30/70 modal split, which is identified as the long-term average and allows for a like for like comparison.	Noted. The long term modal split has been updated to represent the long term modal split in the 92 day summer period for the assessment presented in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
3.0 Mitigation, Enhancement and Monitoring			
Noise Envelope			
3.1	The airport has not yet set out full terms of the Noise Envelope, which are expected to be contained within the ES. They do, however, set out within the Draft Green Controlled Growth Proposals document (dGCG) how the Envelope would be managed as part of the overall mitigation strategy.	The Noise Envelope and GCG proposals have been significantly developed since the PEIR in consultation with the Noise Envelope Design Group.	No
3.2	Within the dGCG document, emphasis is placed on how the strategy it describes allows for a legally binding set of environmental limits. It is not clear how this differs from previous contour conditions, which have been exceeded but which were also taken to be legally binding.	The Green Controlled Growth Explanatory Note [TR020001/APP/7.07] sets out how the legally binding limits will be secured through the DCO and enforced in practice.	
3.3	The GCG strategy also allows for unconstrained growth if the current operations at any given time are below a threshold. It may be sensible to undertake a sensitivity test of the strategy methodology, using data from previous years leading up to and during exceedances of contour areas, to check whether the proposed system would have prevented what has historically happened. It may also be sensible to add some high-level cap to the unconstrained growth phase (below 'Level 1 Threshold') to ensure that operations cannot jump from the unconstrained 'Below Level 1 Threshold' phase to the	Thresholds are set below the Limit to allow growth to occur for the situation where noise benefits are shared with the community and noise effects are less than those presented in the ES as a reasonable worst case. Growth only becomes constrained if the Thresholds	

Ref	Comment	Regard had to the consultee comment	Change
	exceedance 'Above Limit' phase without the mitigatory phases ('Level 1 and 2 Thresholds') coming into effect.	<p>are breached to avoid the situation where the Limit could be breached.</p> <p>Information is provided in Appendix 16.2 Operational Noise Management (Explanatory Note) of the ES [TR020001/APP/5.02] to describe how the proposed framework would have helped to avoid historical exceedances of noise contour areas.</p>	
Sound Insulation Grant Scheme (SIGS)			
3.4	As we commented previously during the 2019 statutory consultation, the proposed SIGS does not contain any night-time qualifications. It is therefore questionable whether it is in line with UK good practice.	The Noise Insulation Schemes have been updated to include night-time noise eligibility, information can be found in Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10] .	Yes
3.5	The PEIR sets out that noise impacts affect more local people negatively during the night than during the day. It is therefore likely that there will be some households that should be allocated a higher band of SIGS mitigation than they qualify for under the proposed scheme.	The Noise Insulation Schemes have been updated to include night-time noise eligibility information can be found in Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10] .	Yes
3.6	Also, as we previously commented, if the revised scheme is to align fully with proposals set out in emerging government policy (Aviation 2050), there is a case for the daytime threshold for full noise insulation package to be reduced down to 60 dB LAeq,16hour from 63 dB LAeq,16hour currently proposed.	Aviation 2050 sets out the Government's proposals (at Para 3.122) "to extend the noise insulation policy threshold beyond the current 63dB LAeq 16hr contour to 60dB LAeq 16hr".	No

Ref	Comment	Regard had to the consultee comment	Change
		<p>The “current” threshold refers to the threshold above which the Government expects airport operators to offer financial assistance towards insulation (rather than a full insulation package).</p> <p>The proposed Noise Insulation Scheme goes above and beyond the proposals in Aviation 2050 by offering financial assistance towards insulation down to the 54dBLAeq, 16h contour.</p>	
3.7	<p>As stated in the Draft Policy and Compensation Measures document, the SIGS will only begin to be implemented when airport operations reach 19 mppa. If that is the case, it may not be possible to insulate every property exposed to SIGS-qualifying noise levels above the SOAEL before that noise impact arises. This would suggest the scheme is potentially ineffective as a means of mitigation, and it should be introduced as early as practicable so that it does not become a scheme of post effect compensation.</p>	<p>The rollout of the Noise Insulation Schemes will prioritise those exposed above SOAEL to ensure that the insulation is in place (if taken up by the resident) as quickly as practicable.</p>	No
3.8	<p>For public buildings, acoustic insulation is proposed to be offered to noise-sensitive buildings within the 63 dB LAeq, 16hour contour. Some of these buildings could be viewed as residential, such as hospices and nursing homes, and so any night-time qualification should extend to relevant public buildings also, if these are present.</p>	<p>The Noise Insulation Schemes have been updated to include night-time noise eligibility for community buildings that are regularly occupied during the night such as hospices and nursing homes. Information can be found in Draft Compensation Policies, Measures and Community First [TR020001/APP/7.10].</p>	
3.9	<p>If the above measures are addressed for the SIGS, the proposed mitigation within it strikes a fair balance that is in line with current UK best practice at comparable airports.</p>	Noted.	No

Ref	Comment	Regard had to the consultee comment	Change
4.0 Assessment of Significant Effects			
Criteria			
4.1	Impact criteria have been updated since the 2019 statutory consultation to remove the possibility of discrepancies within the air noise assessment. The night-time air noise impact criteria have also been updated to correlate with the daytime, subject to the comment in para. 4.2 below.	Justification is provided Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] . The night-time Unacceptable Adverse Effect Level (UAEL) is informed by the approach adopted in the Bristol Airport Application to increase airport capacity.	No
4.2	The only mention of the night-time Unacceptable Adverse Effect Level (UAEL) for air noise is within Table 16.5 (Scoping Opinion comments) of Chapter 16 – scoping opinion ID 4.5.8. No explanation has been provided for how the night-time air noise UAEL is derived.		
4.3	The same criteria (LOAEL, SOAEL and Magnitude of Impact criteria) have been applied for the ground noise assessment as the air noise. This is on the basis that “ground noise is considered equivalent to air noise” (section 3.2.10 of Appendix 16.1), although no justification has been provided for this. Air noise is almost certainly perceived by affected communities as a series of discrete noise events as aircraft overfly them. Ground noise, particularly at busy airports, is usually more continuous in nature at the affected communities that border the airport perimeter. At some UK airports its effects have been assessed using BS 4142, which considers noise from commercial and industrial premises.	There are no current standards or guidance available specific to aircraft ground noise. Assessment criteria have been informed by UK Airspace Policy for LOAEL thresholds and the approach adopted in the Bristol Airport Application to increase airport capacity for noise change criteria.	No
4.4	Construction noise criteria are set for every day of the week for day, evening and night-time. Section 16.8.3 of Chapter 16 states that works outside of “core working hours” are expected to require a Section 61 application to the relevant Local Authority, but no definition of core working hours is provided. The ES should include clear statement regarding the days and times at which construction activity will be permitted to take place.	Details on working hours are provided in the Code of Construction Practice in Appendix 4.2 of the ES [TR020001/APP/5.01] . Core working hours will be from 08:00 to 18:00 on weekdays (excluding bank holidays) and from 08:00 to 13:00 on Saturdays	No

Ref	Comment	Regard had to the consultee comment	Change
Noise Metrics			
4.5	The PEIR only sets out average summer period daytime LAeq,16hour and night-time LAeq,8hour noise contours. Commitments are made to provide further metrics, including N65 and N60 contours, overflights, LAeq,T contours (for periods such as the night-time shoulder periods) and the probability of awakening due to LASmax from individual aircraft. It remains the case that a considerable amount of technical work needs to be done to ensure that the ES contains an accurate and comprehensive assessment of noise effects.	Additional technical work has been undertaken since the 2022 PEIR was published and is described in the ES, including the provision of N65 and N60 contours, overflight contours and predictions of additional awakenings. Please refer to the methodology (Section 16.5) and assessment sections (Section 16.9) of Chapter 16 Noise and vibration of the ES [TR020001/APP/5.01].	Yes
4.6	It is stated that Lmax spot calculations will not be undertaken, although this would be beneficial for Someries Castle, close to the southern boundary of the airport, where it has been suggested that air noise is leading to the castle fabric deteriorating.	Lmax calculations have been undertaken and are presented for individual receptors (including Someries Castle) in Appendix 16.1 of the ES [TR020001/APP/5.03] . The predictions show that Lmax levels are expected to decrease (with and without the Proposed Development) due to the phasing out of current generation aircraft and replacement with new-generation aircraft.	Yes
Air Noise Model Validation			
4.7	The PEIR sets out that custom flight profiles are required for aircraft covering at least 75% of movements to comply with CAP2091. However, only one aircraft has been modelled with a minor adjustment to the flight profile (B737-800) as “adjustments were only adopted if they were simple to apply” (section 6.9.4 of Appendix 16.1).	Custom flight profiles have been derived for the following aircraft in the ES noise model: A319, A320, A321, A320neo, A321neo and B737-800 using 2019 radar track data. The aircraft make up approximately 95% of movements in 2019	No

Ref	Comment	Regard had to the consultee comment	Change
		and therefore comply with the guidance in CAP2091.	
4.8	The flightpaths being used are taken from 2017 radar data and it is not clear if these have been checked to still be appropriate. These flightpaths are also being used in connection with noise monitoring results from 2019-2020. The flightpaths within the modelling may therefore be inaccurate and efforts should be made to check this is not the case. This includes providing reasoning for why certain noise monitoring location results are being omitted.	<p>The ES noise model has been validated using 2019 radar track data and 2019 noise monitoring data and are therefore an appropriate representation of the 2019 baseline.</p> <p>Measured noise data at the location in South Luton was used in validation testing. The results of the validation exercise identified consistent overpredictions at this location for the majority of aircraft tested. Discussions were had with LLAOL regarding potential reasons for the lack of consistency of measured and predicted levels, but no clear reason was identified as to why the discrepancy may be occurring. As the noise model overpredicted at the South Luton location, using it in the validation exercise would reduce correction applied to aircraft Noise-Power-Distance data, thus resulting in smaller noise contours, and understating potential noise effects. Consequently, the South Luton location was omitted from the validation exercise to ensure a conservative approach.</p>	No
4.9	As discussed above in Baseline Year, no modelling is presented for the existing Condition 10 – 18 mppa scenario using AEDT. Through making these flightpaths as accurate as possible, together with a like for like comparison between INM and AEDT,	A sensitivity test using a '2019 Consented' baseline (derived for this purpose by adjusting the fleet mix that occurred in	Yes

Ref	Comment	Regard had to the consultee comment	Change
	contour continuity could be assessed giving more confidence in the appropriateness of the DCO modelling.	2019 to reach a modelled noise impact that would sit within the existing 2019 short term limits) is presented in Noise and Vibration Methodology and Data in Appendix 16.1 of the ES [TR020001/APP/5.01] .	
4.10	Without this, it is expected to be necessary to apply for a variation of Condition 10 which remains binding. There is no mention of this within the noise documents.	The Noise Envelope section of the GCG will set new noise limits that will be secured through a requirement to the DCO and will supersede the current planning conditions (including the Condition 10 noise contour area limits).	No
4.11	It is also expected that if default flight profiles are used in this application, they will have to be used when modelling any future airspace changes, to facilitate a reasonable comparison. This may prove to be sub-optimal if the current Heathrow imposed departure height limit of 4,000ft is removed, as the default departure profiles do not reflect this limit. Should any airspace change proposals be introduced prior to the submission of the ES, we would also expect the impact of these on the air noise modelling for the DCO be assessed, whether by inclusion in the main case or a sensitivity case, depending on the change proposed.	No airspace change proposals have been submitted prior to the application for development consent being submitted. However, sensitivity testing on potential implications of future airspace changes have been presented in Noise and Vibration Methodology and Data in Appendix 16.1 of the ES [TR020001/APP/5.01] .	Yes
Assessment Years			
4.12	As was commented previously, the ANPS requires that Heathrow provide an analysis of the highest noise level year, which is forecast to occur earlier (2035) than the year of full capacity (2050). The only comment suggesting this highest noise level year assessment has been done is in Table 16.3 of Chapter 16, where PINS state an assessment must be undertaken at a point when the airport's noise impact is forecast to be highest, but it is not stated that the years assessed include this.	This has been clarified in the methodology Section (Section 16.5) of Chapter 16 Noise and vibration of the ES [TR020001/APP/5.01] which states that the year the Proposed Development reaches full capacity is also the year of highest noise impact for the core case,	No

Ref	Comment	Regard had to the consultee comment	Change
		with commentary on how this could be affected by sensitivity tests (for example slower or faster growth).	
4.13	Air noise levels are expected to increase in the day and night between 2039 and 2043 (Phase 2a completion to Phase 2b completion). During this time, no new generation aircraft are expected to come into service as the fleet is as modernised as possible by 2039. This is in contradiction to two key parts of the government's Airports National Policy Statement 2018, where "The benefits of future technological improvements should be shared between the applicant and its local communities, hence helping to achieve a balance between growth and noise reduction.". This is also a key noise objective made within the Aviation Policy Framework 2013 (section 3.29, bullet 2) with near identical wording.	The Noise Envelope proposals in the Green Controlled Growth Framework [TR020001/APP/7.08] have been developed to demonstrate how benefits will be shared between the airport and affected communities both in the early phases of expansion and following the mid-2030s when benefits of next-generation aircraft are expected to become available.	Yes
Matters for Clarification			
4.14	In Table 7.16 of The Draft Need Case document, two sets of splits for annual aircraft movements are provided (one for 2019, one 2043). In Table 43 of Appendix 16.1, the 2043 values are presented as those used in all modelling scenarios. In part d of 16.6.1 of Chapter 16, the 2019 values are presented as those used in all modelling scenarios (but labelled as being the 2043 dataset). Clarification is sought on which dataset has been used.	Clarification has been provided in the assumptions and limitations section (Section 16.6) of Chapter 16 Noise and vibration of the ES TR020001/APP/5.01] as to which modal splits are used for each assessment scenario.	Yes
4.15	In Table 11 of Appendix 16.1, noise measurement positions ML43 and ML44 have lower LA10,1hour values presented than LAeq,1hour. Table 9 of the same document sets out the dominant noise sources for these positions as road traffic with road traffic, aircraft and birdsong all listed as secondary sources. For such noise sources, we would typically expect LA10,1hour to be higher than LAeq,1hour, as is the case at all other positions. Clarification is sought on why this is.	The locations of noise measurement positions M43 and M44 were selected to supplement road noise modelling calculations because traffic data flows were low. As road traffic flows were low, they did not influence the LA10,1h metric as much as the LAeq,1h metric. The description of noise sources has been updated to clarify that road traffic noise is	Yes

Ref	Comment	Regard had to the consultee comment	Change
		a secondary source at these monitoring locations.	
4.16	Tables 40 to 42 in Part 6.11 of Appendix 16.1 set out the aircraft types and numbers used in the noise model for the used assessment years. Of note is the fact that in 2019 there were 55 movements during the night-time period and, as remarked above, this led to the Current Condition 10 contour limits being exceeded. In the year of full capacity, 2043, for the DM case 52 night-time movements are indicated suggesting little change in the status quo (if a year for which binding conditions are exceeded can be considered the status quo). However, the 2043 DS case indicates the number of night-time movements increases to 89, squeezing in an additional 24 movements over those in 2019	Noted, this increase in night-time movements is taken into account in the noise assessment in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
4.17	Not only is no recognition given to the existing Condition 10 contour limit, no reference is made the rolling 12-month night quota period (23h30 to 06h00) movement limit of 9,650 and the existing QC limit of 3,500 reducing to 2,800 by 2028. It is unclear whether it is proposed to increase flight numbers within the night quota period, in which case the effect on the relevant limits is not explored, or whether all additional movements will take place in the night shoulder periods. In the latter case there could be dramatic changes in the late evening and early morning noise levels which have not been addressed either	The movement limit of 9,650 in the quota period will be retained should the Proposed Development be granted consent, but the QC limits are proposed to be superseded by the noise contour area limits in the Noise Envelope and these will be enforced through GCG. The increase in night-time movements is taken into account in the noise assessment in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01] .	No
4.18	Section 8 of Appendix 16.1 sets out the results of some air noise sensitivity testing. The tabulated results compare only the DS to DN contour area, household and population numbers for each scenario, with no statement as to noise level differences	More detail on sensitivity tests, including the parameters for Faster Growth, have been provided in Chapter 5 Approach to	Yes

Ref	Comment	Regard had to the consultee comment	Change
	<p>that might arise. Comparison with the base case is therefore not straightforward. Other comments include:</p> <ul style="list-style-type: none"> • The operating parameters for the Faster Growth scenario are not provided within the noise chapter. Given the history at this airport of noise conditions being breached due to faster growth than anticipated, more detail on what Faster Growth means and the likelihood of it occurring should be provided. • The Next Generation Aircraft in Future Years might also be described as a scenario more likely to comply with current government policy, in which case it is an important test. More justification on the selected noise improvement figures should therefore be provided, as there is no guarantee that recently noise reductions can also be achieved for the next generation of aircraft. Furthermore, the sensitivity analysis summary contained in Table 16.47 of Chapter 16 incorrectly describes the effects of this sensitivity test as being adverse, as the use of quieter aircraft in the future will lead to noise reductions and therefore benefits, compared to the Base Case. 	<p>the assessment of the ES [TR020001/APP/5.01] for clarity.</p> <p>Justification for the noise performance assumptions on next-generation aircraft are provided in the Appendix 16.1 Noise and vibration information of the ES [TR020001/APP/5.01]. It is noted that the effects of the next-generation aircraft sensitivity test were incorrectly referred to as adverse in the PEIR – this has been corrected in the ES.</p>	
4.19	<p>If a WEBTAG assessment has not been undertaken to date, we would recommend such an assessment is undertaken for the DCO. We do not consider one is needed at the PEIR stage (indeed one may already be included within another that we have not seen), but a fully comprehensive assessment would point to one being required as part of the ES.</p>	<p>The Department for Transport’s WebTAG assessment method has been used to evaluate the health effects (measured by Disability Adjusted Life Years (DALYs)) arising from increased aircraft noise. This is presented in Chapter 13 Health and Community of the ES [TR020001/APP/5.01].</p>	Yes

Equality Impact Assessment

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
1	Legislation and Guidance				
1.1	Does the EqlA refer to latest relevant legislation, policy and guidance including the Airports National Policy Statement?	A	Relevant local policy, the APNS and NPPF are all included. There is no specific statutory guidance for carrying out an EqlA, but numerous relevant sources of guidance have been provided and look to be appropriate.	Noted	No
2	Baseline Conditions				
2.1	Are the data collection methods/techniques identified and described?	B	<p>Baseline methodology in Section 3.3.1 could be clearer as to the method (desktop) and extent of the baseline. Mention of existing receptors and the geographical context of the Proposed Development is limited. Additionally, Public Health England Profiles are available for 2019, over 2018 (it is stated that the most recent sources of data are used).</p> <p>Section 4.5 – It would be useful to make clear which denomination of area has been used to collect the data sources – local authority/ward/LSOA etc.</p>	Comments are noted and updates to the method explanation and additional changes and information have been added to the baseline assessment in the Equality Impact Assessment [TR020001/APP/7.11] .	No
2.2	Do the data collection methods follow relevant guidance?	B	<p>There are no prescribed or statutory guidelines for EqlA, but standard practice has been followed, using desk-based data collection and public consultation. Protected characteristic groups were not numerous and particularly well represented in consultation so there may be some limitations on the information and feedback gleaned from this session.</p>	Noted.	No

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
2.3	Is the study area identified appropriately?	B	<p>The study area is listed as 15km from the Proposed Development to match the noise and air quality PEIR study areas. This is a large study area and presumably not all sensitive receptors or sensitive facilities are identified over this area.</p> <p>However, not all impacts will align with air quality and noise impacts, and will be as a result of physical displacement, travel patterns etc – it would be useful to differentiate the area for likely impacts as a result of direct impact at a more localised scale.</p> <p>No detail is provided in Section 4.4 of what local authority areas the study area covers, which would be useful as the baseline is largely based on data collection by these boundaries.</p> <p>Appendix A, Map of Study Area and Appendix B figures not included in draft report. It would be useful to also display EqIA receptors on a plan.</p>	<p>Appendices outlining the study area and the baseline receptors have been developed in line with the baseline assessment within the final Equality Impact Assessment [TR020001/APP/7.11].</p> <p>Details on the various study areas used have been added to the Equality Impact Assessment along with details on the Local authority areas that are within the study area.</p>	Yes
2.4	Have all the resources/receptors been considered?	C	<p>Although all protected characteristic groups under Part 2 of the Equality Act are listed in Section 1.3, there is no mention of socio-economic disadvantage, covered by Part 1 of the Act:</p> <p><i>“An authority to which this section applies must, when making decisions of a strategic nature about how to exercise its functions, have due regard to the desirability of exercising them in a way that is designed to reduce the inequalities of outcome which result from socio-economic disadvantage.”</i></p>	<p>Comment is noted, a section on socio-economic disadvantage is now included within the baseline assessment.</p> <p>Comments on wider data sources relating to disability, additional receptors and walkers, cyclists and horse riders (WCHs) are also noted and are now incorporated into the baseline assessment in the Equality</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			<p>It is noted that although socio-economic disadvantage is not mentioned under Section 1.3, deprivation data is included in the baseline.</p> <p>Data is available publicly for other types of disability, for example sensory impairments (deafness and blindness) and autism. This section of the baseline (4.5.7-4.5.10) could be expanded beyond health and long-term illness to reflect other disabilities.</p> <p>A number of additional receptors / sensitivities have been included in the baseline – walkers, cyclists and vulnerable users, employment, skills and qualifications and safety and security. It would be beneficial to outline their inclusion in Section 3.</p> <p>Only data has been included on the various protected characteristics presented in the Equality Act. No further detailed information or data is included on facilities/ services / geographical context which may be affected locally by the Proposed Development and therefore cause disproportionate impacts on protected groups. For example, medical and care facilities, schools and education facilities, places of worship and community centres, financial support services etc. (It is noted that where impacted, there is some inclusion of specific facilities in the assessment, but no general baseline for this has been included).</p>	<p>Impact Assessment [TR020001/APP/7.11].</p>	

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
2.5	Is the value (sensitivity) of the resources/receptors identified using appropriate criteria?	N/A	Not relevant for EqIA	Noted.	No
2.6	Has there been consultation with the relevant statutory bodies?	B	<p>Statutory consultation is outlined, however outcomes/amendments for the EqIA are not detailed within the EqIA: <i>“5.1.4 Statutory consultation was held in the Autumn of 2019. Feedback from the consultation focused on the need for the EIA to refer to the EqIA, the need for more publicly available information on the EqIA and for the two assessments to be more closely aligned. The Consultation Feedback report can be found on the Luton Rising website.</i></p> <p><i>5.1.5 In addition to the consultation activities outlined above, further engagement activities were undertaken with local authorities where the Proposed Development is located. These include Luton Borough Council, North Hertfordshire District Council and Central Bedfordshire Council.”</i></p> <p>The Table 5.1/6.1 could cause some confusion (ToC does not match the text) as there are a couple of parties listed in both columns as attending and not attending i.e., Age Concern and Near Neighbours. Diversity of districts in Study Area also does not appear to be represented in consultation.</p>	Noted. Table 5.1/6.1 in Equality Impact Assessment [TR020001/APP/7.11] has been updated and attendees have been reviewed and double checked to ensure consistency.	Yes
2.7	Is the future baseline scenario adequately described?	C	No data relating to future baseline or data projections is included.	Future baseline and data projects is not usually included within the EqIA it is noted that the population may change in size and there may be other committed developments. The	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
				relevant information has been included in the Equality Impact Assessment [TR020001/APP/7.11] as appropriate.	
2.8	Are uncertainties, data limitations, assumptions, difficulties and the use of professional judgment made clear?	B	<p>Data limitations are listed in Section 3.6. The baseline data is relatively light touch for a development of this scale, and screening is not included to provide the rationale of the assessment or highlight uncertainties or gaps in data.</p> <p>Protected characteristic groups were not numerous and particularly well represented in consultation so there may be some limitations on the information and feedback gleaned from this session. Diversity of districts in Study Area also does not appear to be represented in consultation.</p>	<p>A screening assessment is now included within the Equality Impact Assessment [TR020001/APP/7.11].</p> <p>A more detailed baseline assessment has also been developed as part of the Equality Impact Assessment [TR020001/APP/7.11].</p>	Yes
2.9	Which are the key receptors for the local authorities?	B	<p>Data is presented on the demographic of protected characteristic groups and other sensitive and vulnerable groups. These are the key receptors considered by the EqIA, as required by the Equality Act and PSED.</p> <p>However, it would be useful at the end of the baseline (Section 4) to present a summary of whether there are any over or underrepresented groups based on the baseline data in the Study Area that should be considered when carrying out the EqIA. For example, the age distribution and racial diversity in Luton.</p>	A summary of baseline conditions is included within the baseline assessment of the Equality Impact Assessment [TR020001/APP/7.11] .	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
3	Mitigation, Enhancement and Monitoring				
3.1	Does the PEIR describe the measures proposed to avoid, reduce, or offset significant adverse effects of the proposed development?	C	Mitigations are vague and light touch, and often pinpoint to PEIR or outline plans to be submitted with the application. Design standards to be adhered to are not mentioned for numerous elements, for example public realm design, lighting, highway design. Responsibilities are not assigned, and timescales for actions are either not specific or not provided. Would expect more detailed measures to be included, specific to the construction and operation phases and elements of the Proposed Development.	Noted. The mitigation measures have been developed in more detail in line with the development of the scheme design. Where detailed information is available, this has been included within the assessment. Detailed measures, responsibilities and timescales are outlined within the assessment where the information is available.	Yes
3.2	Are the mitigation measures included for adverse effects appropriate?	B	Mitigation included looks to be appropriate but could be more detailed.	More details are included within the assessment in line with details available at this stage of scheme design.	Yes
3.3	Does the PEIR set out how mitigation measures are to be secured and implemented and with whom the responsibility for their delivery lies, where possible at this stage?	C	Responsibilities and timescales are not assigned in detail.	Detailed measures, responsibilities and timescales are outlined within the assessment as appropriate and in line with information available at this stage of scheme design.	Yes
3.4	Does the PEIR refer to monitoring requirements where it would be considered as being required / appropriate?	C	No monitoring of the success of any mitigation measures is included or identified.	Details on the monitoring of mitigation measures are now included within the assessment as appropriate and in line with information available at this stage of scheme design.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
3.5	How could the proposed mitigation measures and/or the proposed development be improved?	C	<p>Mitigations are vague and light touch, and often pinpoint to PEIR or outline plans to be submitted with the application. The EqIA is a standalone document and therefore all measures should be provided within.</p> <p>Design standards to be adhered to are not mentioned for numerous elements, for example public realm design, lighting, highway design.</p> <p>Recommendations about further consultation could be included with additional parties, to try and fill some gaps in representation. This could include providing material in additional languages for certain districts where diversity is higher, or perhaps identifying barriers to participation and looking to facilitate where necessary.</p>	<p>Where mitigation measures have been further developed, these are now included within the assessment as appropriate. Additionally, where outline plans have been produced these are also included within the assessment.</p> <p>Recommendations relating to further consultation are included within the assessment as appropriate.</p>	Yes
4	Assessment of Significant Effects				
4.1	Are the assessment methods/techniques used identified and described?	B	<p>Although there is no prescribed method for undertaking EqIAs, the methodology adopted conforms with other industry examples. However, the methodology is simpler than some other industry examples and could go further to provide a more detailed baseline and a less simplified assessment framework (for example going further than assessing just beneficial or adverse impacts, but detailing scale or number of people affected, duration, reversibility etc).</p>	<p>Noted. The assessment includes a more detailed assessment determining scale, duration and mitigation of identified impacts where appropriate and where information is available at this stage of scheme design.</p>	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.2	Are the methods for establishing the 'magnitude' of effects on the receiving environment clearly defined?				No
4.3	Are the methods for evaluating level of impact clearly defined/?	N/A	The assessment parameters are included in the report but significance not relevant for EqIA. Where conclusions have been taken from topics in the PEIR the overall effect has been stated. However not all cases state when this is significant (for example when moderate adverse).	Noted. The updated assessment conclusions including significance have been integrated into the Equality Impact Assessment [TR020001/APP/7.11] .	Yes
4.4	Do the assessment methods used follow relevant guidance?	B	The EqIA provides documentation that due regard of disproportionate impact to those listed under the Equality Act has been paid. However, the methodology is simpler than other industry examples and could go further to provide a more detailed baseline and a less simplified assessment framework (for example going further than assessing just beneficial or adverse impacts, but detailing scale or number of people affected, duration, reversibility etc).	Noted. The Equality Impact Assessment [TR020001/APP/7.11] includes a more detailed assessment determining scale, duration, and mitigation of identified impacts where appropriate and where information is available at this stage of scheme design	Yes
4.5	Have potential effects been considered both during construction and operation?	A	Construction and operation impacts have been considered.	Noted.	No
4.6	Has the magnitude, probability, duration (temporary and permanent), reversibility and	B	Although there is no prescribed method for undertaking EqIAs, the methodology adopted conforms with other industry examples. However, the methodology is simpler than	Noted. The Equality Impact Assessment [TR020001/APP/7.11] includes detailed assessment determining scale, duration and mitigation of identified impacts where	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
	significance of impacts been considered?		some other industry examples and could go further to provide a more detailed baseline and a less simplified assessment framework (for example going further than assessing just beneficial or adverse impacts, but detailing scale or number of people affected, duration, reversibility etc).	appropriate and where the relevant information is available.	
4.7	Are significant adverse and beneficial effects identified and described, with a justification for the 'significance' decision?	N/A	Not relevant for EqIA, although where conclusions have been taken from the PEIR, their level of effect (but not significance in all cases) has been provided.	Noted. The Equality Impact Assessment [TR020001/APP/7.11] includes detailed assessment determining scale, duration, and mitigation of identified impacts where appropriate and where the relevant information is available.	Yes
4.8	Are the residual significant effects clearly stated?	N/A			
4.9	Have the interaction of effects and cumulative effects been considered appropriately?	B	Cumulative effects have been considered, but as the detail in design is not very advanced, there may be impacts that have not yet been able to be identified. A commitment should be made to update the EqIA when the detailed design is underway. It should be considered as to whether further consultation is also needed at this stage.	Noted. Cumulative effects is considered within the Equality Impact Assessment [TR020001/APP/7.11] .	No
4.10	Have uncertainties in the design, mitigation or assessment been recognised?	C	It could be made clearer the uncertainties around the current level of design. There is potential for many more specific impacts to be identified during detailed design – this should be reflected.	Noted. Further details of any scheme uncertainties has been included within the Equality Impact Assessment [TR020001/APP/7.11] where appropriate.	Yes

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
4.11	Has the scoping opinion been considered in the preparation of the PEIR as applicable at this stage?	N/A	EIA Scoping opinion not relevant to the scope of the EqIA (although the EqIA does draw on the PEIR). However, EqIA screening has not been outlined within the document to determine the rationale for the full assessment.	Noted. A section on the screening of the Equality Impact Assessment [TR020001/APP/7.11] is now included within the assessment.	Yes
5	Conclusion/Summary				
5.1	Have the conclusions been clearly reported in the PEIR?	B	Table 9.1 summarises the outcomes of the assessment.	Noted.	No
5.2	Is the summary of the significant environmental effects and associated mitigation measures presented in tabular format?	B	Table 9.1 summarises the outcomes of the assessment.	Noted.	No
6	Reporting Style				
6.1	Is the PEIR unbiased, balanced, comprehensive and transparent in its logic and presentation?	B	The assessment appears to be unbiased and balanced but lacks the detail to provide a full assessment of impacts and suite of specific mitigation actions for protected characteristic groups.	Noted. A more detailed assessment determining scale, duration and mitigation of identified impacts is now included in the Equality Impact Assessment [TR020001/APP/7.11] as appropriate and where relevant information is available at this stage of the scheme design.	Yes
6.2	Is the PEIR readable to the audience for which it is intended?	B	The document is readable to the audience intended, although if to be made publicly accessible then further detail should be added as to where accessible formats can be found, including presentation in other languages if deemed to be necessary. General note – the document's presentation does not completely align with accessible	Noted. The PEIR was produced in an accessible format to be readable to a wide audience. In addition to the traditional PDF documents, a Digital PEIR was produced for easier navigation online.	No

Ref.	Consultee comment			Regard had to the consultee comment	Change
	Aspect being reviewed	WSP code	Comments		
			publication guidelines (for example coloured table headings, merged cells, format of references) https://www.gov.uk/guidance/publishing-accessible-documents		
6.3	Is the Non-Technical Summary suitably clear and free from technical jargon?	B	Language used is appropriate.	Noted.	No
6.4	Does the Non-Technical Summary presentation match the findings of the PEIR?	N/A			
6.5	Are the Figures generally expected to support this type of document provided either in Volume 2 or Volume 3? – Please provide further commentary if required.	C	Figures are not provided for evaluation. It is also suggested sensitive receptors are shown.	Figures have been produced as part the assessment and have been included as appendices to the Equality Impact Assessment [TR020001/APP/7.11] .	Yes
6.6	Are the Appendices generally expected to support this type of document provided in Volume 3? – Please provide further commentary if required.	N/A	Figures are not provided for evaluation.	Figures have been produced as part the assessment and have been included as appendices to the Equality Impact Assessment [TR020001/APP/7.11] .	Yes
Conclusion					
	Baseline Information	A	-		
	Mitigation, Enhancement and Monitoring	B	3.6.1 – It is noted that there is a limitation on data for gender. However, the Equality Act only denotes “sex” as the protected characteristic but provides no definition for	Noted. A definition of “sex” has now been added to the Equality Impact Assessment [TR020001/APP/7.11] .	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			<p>this. It would be useful for the EqIA to define what is included under this protected characteristic for the purpose of this assessment (i.e males and females only or other gender identification).</p> <p>4.5.14 and 4.5.15 do not provide any data on pregnancy and maternity. There is data available on ONS on fertility rates and birth rates. It would be useful at the end of the baseline (Section 4) to present a summary of whether there are any over or underrepresented groups based on the baseline data in the Study Area that should be considered when carrying out the EqIA. Section 5 – Stakeholder engagement – No detail of timings or how the session was delivered is included. Were any special considerations made for accessibility / online measures / times of day or allowances for holidays to ensure an inclusive opportunity for consultation?</p> <p>5.1.4 – were any actions / amendments made as a result of the feedback?</p>		
	Assessment of Significant Effects	C	<p>Mitigations are vague and light touch. Design standards to be adhered to are not mentioned for numerous elements, for example public realm design, lighting, highway design.</p> <p>Responsibilities are not assigned, and timescales for actions are not specific or provided. Would expect more detailed measures to be included, specific to the construction and operation phases and elements of the Proposed Development.</p> <p>No monitoring is included.</p>	<p>As mitigation measures are more developed including outline plans, the appropriate details are now included within the assessment.</p> <p>Information regarding the monitoring of the impacts of mitigation measures are now included within the Equality Impact Assessment [TR020001/APP/7.11]</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
	Conclusions		<p>3.4 Terminology – effects and impacts seem to be used interchangeably. As there is no significance / scale applied, and ratings are limited to Beneficial/Neutral/Adverse, it would seem impacts would be most appropriate terminology to be used (particularly to limit confusion with EIA assessments presented in the PEIR).</p> <p>6.11 Topics scoped out seem to have been done so in completing the full assessment. Other industry examples include the screening of protected characteristic groups and would screen out at this stage. However, the screening for this EqIA has not been included.</p> <p>PRoW facilities are mentioned under the assessment of protected characteristic groups. These seem to be indiscriminately included and no context is given on areas they connect, therefore are not able to indicate higher or lower uptake by protected characteristic group members.</p> <p>The assessment of disability only seems to have considered accessibility in terms of mobility. Further consideration should be given to sensory impairments and learning difficulties in access and the operation of the Proposed Development. No mention of design standards to be adhered to have been made and no assessment of integration with the existing facilities. There is also no mention of safety and security or specific reference to different elements of the Proposed Development.</p>	<p>Noted. The Equality Impact Assessment [TR020001/APP/7.11] includes a more detailed assessment determining scale, duration, and mitigation of identified impacts where appropriate and where relevant information is available at this stage of scheme design. A cross check has been undertaken on terminology used between impacts and effects.</p>	Yes

Ref.	Consultee comment		Regard had to the consultee comment	Change	
	Aspect being reviewed	WSP code			Comments
			Assessment of race makes no mention of language barriers, both in engaging with the Proposed Development's consultation, construction or operation. There are also likely to be areas of employment overrepresented by ethnic minorities, such as taxi drivers or certain airport staff which could either benefit or be adversely affected – more could be included here.		
	Presentation (including Figures and Appendices)	B	<p>It is noted that the assessment is based on the level of detail available for the PEIR, and not the detailed design. However, it is felt that the baseline deals with the demographic in a broad manner and local nuances are not included in detail. The assessment therefore is not very detailed and does not reflect the scale of the Proposed Development.</p> <p>Mitigation measures should be more specific and where detail is lacking, commitments should be made to review at a stage when this information is available.</p>	<p>Noted. A more detailed baseline assessment is now included within the Equality Impact Assessment [TR020001/APP/7.11] in line with consultee comments.</p> <p>The Equality Impact Assessment [TR020001/APP/7.11] now includes a more detailed assessment determining scale, duration, and mitigation of identified impacts where appropriate and where relevant information is available at this stage of scheme design.</p>	Yes

¹ Please note that at the time the WSP review was commissioned, Dacorum Borough Council were not identified as a host authority and therefore the WSP response to statutory consultation was not instructed or submitted on Dacorum's behalf. Dacorum have since been identified as a host authority.

² Department for Business, Energy & Industrial Strategy (2017) Clean Growth Strategy. Available at: <https://www.gov.uk/government/publications/clean-growth-strategy>

³ Department for Transport (2017) UK Aviation Forecasts 2017. Available at: <https://www.gov.uk/government/publications/uk-aviation-forecasts-2017>

⁴ Official Journal of the European Union (2010) Commission Decision of 10 June 2010 on guidelines for the calculation of land carbon stocks for the purpose of Annex V to Directive 2009/28/EC

⁵ Department for Transport, July 2022, Jet Zero Strategy, Delivering net zero aviation by 2050.

⁶ Department for Transport, July 2022, Jet Zero Strategy, Delivering net zero aviation by 2050.

⁷ Landscape Institute (2019) Technical Guidance Note 06/19 Visual Representation of Development Proposals