

February 2023

# London Luton Airport Expansion

Planning Inspectorate Scheme Ref: TR020001

Volume 5 Environmental Statement and Related Documents  
**5.02 Appendix 1.4 Environmental Impact Assessment**  
**Scoping Opinion Response**

**The Planning Act 2008**

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

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

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**5.02 ENVIRONMENTAL STATEMENT APPENDIX 1.4  
ENVIRONMENTAL IMPACT ASSESSMENT SCOPING OPINION  
RESPONSE**

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<b>Regulation number:</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference:</b>	TR020001
<b>Document Reference:</b>	TR020001/APP/5.02
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<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Issue 01	February 2023	Application issue

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# 1 INTRODUCTION

- 1.1.1 Luton Rising (a trading name of London Luton Airport Limited (the ‘Applicant’)), is proposing to expand London Luton Airport (‘the airport’) through an application for development consent for works that would allow growth from the current permitted capacity of 18 million passengers per annum (mppa) to accommodate 32 mppa (hereon referred to as the ‘Proposed Development’).
- 1.1.2 This document is an appendix to the Environmental Statement (ES) that accompanies the application for development consent. As recommended in the Scoping Opinion (provided as **Appendix 1.3** of the ES [TR020001/APP/5.05]), the ES provides responses to comments received from the Planning Inspectorate, and relevant stakeholders, and demonstrates how the assessment has taken into account the Scoping Opinion (**Appendix 1.3** of the ES [TR020001/APP/5.05]) and where in the ES comments have been addressed.
- 1.1.3 Responses to all comments received in the Scoping Opinion (**Appendix 1.3** of the ES [TR020001/APP/5.05]), from both the Planning Inspectorate and relevant stakeholders, are presented in **Section 2 (Table 2.1)** of this document.
- 1.1.4 The structure of **Table 2.1** is described below:
- a. Column 1: Planning Inspectorate Scoping Opinion paragraph number, aspect based scoping table ID number or Appendix 2 consultee correspondence;
  - b. Column 2: Comment originator;
  - c. Column 3: Discipline (identifies responding disciplines – either core or cross topic);
  - d. Column 4: Scoping Opinion comment; and,
  - e. Column 5: Applicant response.
- 1.1.5 The structure of the table largely follows the structure of the Scoping Report (provided as **Appendix 1.1 and 1.2** of the ES [TR020001/APP/5.05]) and Scoping Opinion (**Appendix 1.3** of the ES [TR020001/APP/5.05]):
- a. General EIA Matters;
  - b. Agricultural Land Quality and Farm Holdings;
  - c. Air Quality;
  - d. Biodiversity;
  - e. Climate Change Resilience;
  - f. Cultural Heritage;
  - g. Economics and Employment;
  - h. Greenhouse Gases;
  - i. Health and Community;

- j. Landscape and Visual;
- k. Major Accidents and Disasters;
- l. Noise and Vibration;
- m. Soils and Geology;
- n. Surface Access;
- o. Traffic and Transportation;
- p. Waste and Resources;
- q. Water Resources and Flood Risk;
- r. In-Combination and Cumulative Effects; and
- s. Other, including;
  - i. Airspace / Aviation Regulation;
  - ii. Constructability;
  - iii. Design, Earthworks, Lighting and Planning; and
  - iv. Utilities.

1.1.6 Where responses include input from more than one discipline to provide an appropriate response, this is clearly signposted in Column 3.

## **2            RESPONSES TO SCOPING OPINION**

Table 2.1: Responses to all comments received in the Scoping Opinion

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
<b>General EIA Matters</b>				
1.1.1	Planning Inspectorate	General EIA Matters	On 29 March 2019, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from London Luton Airport Limited (LLAL) (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Expansion of London Luton Airport (the Proposed Development).	Acknowledged. No further response required as the comment is for information purposes only.
1.1.2	Planning Inspectorate	General EIA Matters	In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion 'as to the scope, and level of detail, of the information to be provided in the environmental statement'.	Acknowledged. No further response required as the comment is for information purposes only.
1.1.3	Planning Inspectorate	General EIA Matters	This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled 'Future LuToN: Making best use of our runway - Environmental Impact Assessment Scoping Report' (the Scoping Report) and dated March 2019. This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.	Acknowledged. No response required as the comment is for information purposes only.
1.1.4	Planning Inspectorate	General EIA Matters	The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.	Acknowledged. No further response required as the comment is for information purposes only.
1.1.5	Planning Inspectorate	General EIA Matters	Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account: (a) any information provided about the proposed development; (b) the specific characteristics of the development; (c) the likely significant effects of the development on the environment; and (d) in the case of a subsequent application, the environmental statement submitted with the original application.	Acknowledged. No further response required as the comment is for information purposes only.
1.1.6	Planning Inspectorate	General EIA Matters	This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.	Acknowledged. No further response required as the comment is for information purposes only.
1.1.7	Planning Inspectorate	General EIA Matters	The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).	Acknowledged. No further response required as the comment is for information purposes only.
1.1.8	Planning Inspectorate	General EIA Matters	The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).	Acknowledged. No further response required as the comment is for information purposes only.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
1.1.9	Planning Inspectorate	General EIA Matters	This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.	Acknowledged. No response required as the comment is for information purposes only.
1.1.10	Planning Inspectorate	General EIA Matters	Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include: (a) a plan sufficient to identify the land; (b) a description of the proposed development, including its location and technical capacity; (c) an explanation of the likely significant effects of the development on the environment; and (d) such other information or representations as the person making the request may wish to provide or make.	Acknowledged. No further response required as the comment is for information purposes only.
1.1.11	Planning Inspectorate	General EIA Matters	The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.	Acknowledged. No further response required as this comment is for information only.
1.1.12	Planning Inspectorate	General EIA Matters	In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on 'the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)'.	Acknowledged. No further response required as the comment is for information purposes only.
1.2.1	Planning Inspectorate	General EIA Matters	In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.	Acknowledged. No further response required as the comment is for information purposes only.
1.2.2	Planning Inspectorate	General EIA Matters	The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided, along with copies of their comments, at Appendix 2, to which the Applicant should refer in preparing their ES.	Acknowledged. Responses to all comments received have been provided in <b>Appendix 1.4</b> of the ES (this document) [TR020001/APP/5.02].
1.2.3	Planning Inspectorate	General EIA Matters	The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.	Acknowledged. Responses to all comments received have been provided in <b>Appendix 1.4</b> of the ES (this document) [TR020001/APP/5.02].



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1.2.4	Planning Inspectorate	General EIA Matters	Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in preparing their ES.	Due consideration has been given to all comments received throughout the EIA process.
1.3.1	Planning Inspectorate	General EIA Matters	On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a period of negotiations regarding the UK's exit from the EU. On 26 June 2018 The European Union (Withdrawal) Act 2018 received Royal Assent and work to prepare the UK statute book for Brexit has begun. The European Union (Withdrawal) Act 2018 will make sure that UK laws continue to operate following the UK's exit. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.	Acknowledged. No further response required as the comment is for information purposes only.
2.0.1	Planning Inspectorate	General EIA Matters	The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/resources.	Acknowledged. No further response required as the comment is for information purposes only.
2.1.1	Planning Inspectorate	General EIA Matters	The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in Chapter 3 of the Scoping Report and in the associated figures and appendices.	Acknowledged. No further response required as the comment is for information purposes only.
2.1.2	Planning Inspectorate	General EIA Matters	The Proposed Development involves the remodelling and expansion of the existing London Luton Airport (the Airport) to enable an increase in operating capacity from 140,000 air transport movements (ATM) per annum to approximately 212,500 ATM per annum, and from around 18 million passengers per annum (mppa) to 32 mppa. The Scoping Report states that the Proposed Development is defined as a Nationally Significant Infrastructure Project (NSIP) under the terms of section 23 of the PA2008. London Luton Airport is currently operated under concession by London Luton Airport Operations Ltd (LLAOL) with its current planning permission for a capacity of 18mppa. This agreement is in place until 2031.	Acknowledged. No further response required as the comment is for information purposes only.
2.1.3	Planning Inspectorate	General EIA Matters	The Proposed Development is to be located at the existing site of the Airport and in the surrounding area, approximately 45km north west of London as shown on Figure 2.1 of the Scoping Report. The Scoping Report acknowledges that that uncertainty remains regarding the exact location and design of certain elements of the Proposed Development, but that the key known components of the Proposed Development will be located 'in the zones or envelopes indicated in Figure 3.1' of the Scoping Report. These also being referred to as the following three key aspects/locations: 'Main Application Site'; 'Off-site Car Parks'; and 'Off-site Highway Interventions'. The assessment methodologies have been prepared based on the infrastructure being located within these zones/aspects/locations.	Acknowledged. No further response required as the comment is for information purposes only.

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2.1.4	Planning Inspectorate	General EIA Matters	The Main Application Site encompasses approximately 360 hectares (ha) and includes Wigmore Valley Park. It lies approximately 4km from Junction 10 of the M1 motorway, with residential development to the north, mixed residential and industrial development to the west, and rural arable fields to the east and south. A closed historical landfill is located in the north of the Main Application Site, over which the Proposed Development will be built. Luton town centre is located approximately 2.5km to the west of the Airport.	Acknowledged. No further response required as this comment is for information only.
2.1.5	Planning Inspectorate	General EIA Matters	As shown in Figure 2.2 of the Scoping Report, the Airport currently comprises a single runway with associated taxiways, stands and aprons. It has a single commercial passenger terminal with supporting hangars, maintenance facilities and airport related offices along with a number of car parks.	Acknowledged. No further response required as this comment is for information only.
2.1.6	Planning Inspectorate	General EIA Matters	The key components of the Proposed Development include: <ul style="list-style-type: none"> <li>• creation of an airfield platform: earthworks from on-site excavation;</li> <li>• new terminal with boarding piers;</li> <li>• additional taxiways and aprons (aircraft stands);</li> <li>• vehicle forecourt and multi-storey short stay/mid-stay car parking adjacent to the terminal. Additional mid and long stay surface parking, including replacement where the existing facilities are disturbed;</li> <li>• airfield facilities: Relocated engine run-up bay, compass swing bay and de-icing area, and fire training facilities;</li> <li>• landside facilities: Airport associated support buildings such as snow base, energy centre, logistics centre and service yard, and new fuel line connection and storage facilities;</li> <li>• surface access: Road and infrastructure provision and adjustments. Bus station, taxi ranks and extension of Luton Direct Air to Rail (DART) system to the new terminal;</li> <li>• surface water and foul management, including drainage, interceptors, surface water attenuation and treatment, foul water collection and treatment, effluent storage and discharge to ground; and</li> <li>• landscaping: Improvement or replacement of existing and planned public open space and amenities.</li> </ul>	Acknowledged. No further response required as this comment is for information only.
2.2.1	Planning Inspectorate	General EIA Matters	The ES should include the following: <ul style="list-style-type: none"> <li>• a description of the Proposed Development comprising at least the information on the site, design, size and other relevant features of the development; and</li> <li>• a description of the location of the development and description of the physical characteristics of the whole development, including any requisite demolition works and the land-use requirements during construction and operation phases</li> </ul>	The ES has included descriptions of both: <ul style="list-style-type: none"> <li>• the Proposed Development comprising at least the information on the site, design, size and other relevant features of the development; and</li> <li>• the location of the development and description of the physical characteristics of the whole development, including any requisite demolition works and the land-use requirements during construction and operation.</li> </ul> These descriptions are provided in <b>Chapter 2</b> Site and Surroundings and <b>Chapter 4</b> The Proposed Development of this ES [TR020001/APP/5.01].
2.2.2	Planning Inspectorate	General EIA Matters Design Masterplanning Luton Rising	Due to the ongoing nature of the design development, the Scoping Report lacks specific information on the characteristics of elements to the Proposed Development e.g. dimensions, locations or final elevations of various structures to include the form and location of the terminal building, the forecourt configuration, the final number of parking spaces, the height of the new fuel farm and the precise range of ground handling and vehicle holding facilities. It does not provide information on the proposed landside facilities, including the proposed 'energy centre', 'snow base', 'logistics centre and service yard' and 'storage facilities'.	A detailed description of the Proposed Development is provided in <b>Chapter 4</b> The Proposed Development of the ES [TR020001/APP/5.01].

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
2.2.3	Planning Inspectorate	General EIA Matters	The Inspectorate acknowledges that at this point in the evolution of the Proposed Development a final description may not yet be confirmed, and that there are currently different options for certain works. However, the Applicant should be aware that the description of the Proposed Development provided in the ES must be sufficiently certain to meet the requirements of the EIA Regulations. The ES must include a detailed description of all components of the Proposed Development and should include reference to the location, alignments and dimensions of each individual element, including maximum heights, design parameters and limits of deviation. Where appropriate this information should be accompanied by figures to assist the reader.	A description of the Proposed Development is provided in <b>Chapter 4 The Proposed Development</b> of the ES [TR020001/APP/5.01]. A description of its location, and its physical characteristics are provided in <b>Chapter 2 Site and Surroundings</b> of the ES [TR020001/APP/5.01].
2.2.4	Planning Inspectorate	General EIA Matters	With respect to buildings, the description of the development should be defined in terms of their maximum footprints and maximum heights should be expressed as metres Above Ordnance Datum (m AOD). Proposed increases and decreases in ground levels should also be expressed in terms of m AOD.	A description of the Proposed Development is provided in <b>Chapter 4 The Proposed Development</b> of the ES [TR020001/APP/5.01]. In <b>Chapter 4</b> , the maximum parameter height for buildings is expressed as metres Above Ordnance Datum (mAOD) for each Work number (Work No.) of the Proposed Development. The descriptions in <b>Chapter 4</b> also expresses proposed increases and decreases in ground levels as mAOD.
2.2.5	Planning Inspectorate	General EIA Matters	In describing the Proposed Development and the scope of the assessments, the Scoping Report refers to three key aspects/locations: the 'Main Application Site'; 'Off-site Car Parks'; and 'Off-site Highway Interventions'. However, the precise extent of each of these areas, particularly the extent of the 'Main Application Site', is not clear from the plans provided. Figure 2.1 to the Scoping Report shows each of these areas using the same red line, making it difficult to distinguish each area. The ES should clearly describe the Proposed Development and ensure that textual description is supported by clear and legible plans to aid the reader.	<b>Figure 2.2</b> of this ES [TR020001/APP/5.03] provides a clarification of the key Proposed Development areas. Chapter 4 of the ES [TR020001/APP/5.01] provides a clear description of the Proposed Development and is supported by clear legible plans for assessment Phases 1, 2a and 2b ( <b>Figures 4.1, 4.2 and 4.3</b> respectively [TR020001/APP/5.03]).
2.2.6	Planning Inspectorate	General EIA Matters	The Scoping Report states that the Off-site Highway Interventions will be largely within the existing highway boundary. However, there is ongoing uncertainty with regards to the precise location, nature and extent of the Offsite Highways Interventions. The Scoping Report proposes to scope out matters from a number of aspect chapters on this basis. The lack of certainty affects the understanding of the current baseline and the extent to which likely significant effect would occur. The ES should provide detailed information on the Off-Site Highways Intervention areas, supported by clear and legible plans and figures.	A general description of the location of Off-site Highway Interventions is provided in <b>Chapter 2 Site and surroundings</b> , supported by <b>Figure 2.1 [TR020001/APP/5.03]</b> . A detailed description of the Off-site Highway Interventions and individual work numbers (Work No.) are provided in <b>Chapter 4 The Proposed Development</b> of the ES [TR020001/APP/5.01] provide descriptions and is supported by clear legible plans for assessment Phases 1, 2a and 2b ( <b>Figures 4.1, 4.2 and 4.3</b> respectively [TR020001/APP/5.03]).
2.2.7	Planning Inspectorate	General EIA Matters	The Scoping Report refers to both 'ancillary aviation supporting facilities' and 'ancillary buildings' in the description of development. The Applicant should clearly define in the draft DCO (dDCO) which elements of the Proposed Development are integral to the NSIP and which are ancillary matters. Any proposed works and or infrastructure identified as ancillary to the Proposed Development should be assessed as part of an integrated approach to the environmental assessment.	The ES identifies facilities and principal assets indicating their functions in <b>Chapter 4 The Proposed Development</b> of this ES [TR020001/APP/5.01]. The descriptions in <b>Chapter 4</b> clearly indicate those matters which are integral to the Proposed Development and those which are ancillary. All integral and ancillary works are appropriately assessed in the EIA.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
2.2.8	Planning Inspectorate	General EIA Matters	Section 2.4 of the Scoping Report refers to a number of airport related developments that are currently approved and under construction, or currently under consideration by the local planning authority including: Project Curium; Luton DART; the reuse and placement of soil from Project Curium and Luton DART; and the Enterprise Zone development to include Bartlett Square and New Century Park. The description of development in the ES should explain the relationship between the Proposed Development and other developments. The ES description should be clear in stating which works have been assessed and whether they form part of the DCO application. Where these works are not to be included in the DCO application, the ES should ensure that they are adequately assessed in the cumulative effects assessment where significant effects are likely.	A description of airport related developments which are currently approved and/or under construction is provided in <b>Chapter 2</b> Site and Surroundings and <b>Chapter 5</b> Approach to the Assessment. Where appropriate, these developments have been included in the Cumulative Effects Assessment, as described in <b>Chapter 21</b> In-combination and cumulative effects of the ES. The Proposed Development is described in <b>Chapter 4 The Proposed Development</b> of the ES.
2.2.9	Planning Inspectorate	General EIA Matters	The Scoping Report references public transport infrastructure to access the airport such as the Luton DART. The ES should take account of any potential overlap between the expansion proposal and proposed public transport infrastructure links, detailing the outcome of relevant consultations with Network Rail.	Luton DART is a committed project that is under construction and therefore forms part of the future baseline. As part of the Proposed Development, the Luton DART will be extended to Terminal 2 as described in <b>Chapter 4 The Proposed Development</b> of this ES [TR020001/APP/5.01]. Presently, no other relevant proposed public transport infrastructure links in the vicinity of the airport are being considered.
2.2.10	Planning Inspectorate	General EIA Matters	Road closures and diversions are referenced at Sections 14.5.10 and 15.6.3 of the Scoping Report but limited information has been provided in respect of these. The ES should contain a full explanation of such closures and diversions, including whether they are temporary or permanent, and associated impacts should be fully assessed. This information should also be depicted on figures in the ES to provide further clarity.	Some local routes will be particularly affected during the construction of the AAR in assessment Phase 2 and the New Wigmore Valley Park works with some roads temporarily closed and others having temporary diversions, traffic lights and/or lane restrictions. The Code of Construction Practice (CoCP) contained within <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02] provides details of management measures, such as advance warning to, enable affected parties to consider alternative routes or travel arrangements.
2.2.11	Planning Inspectorate	General EIA Matters	Section 3.6.6 of the Scoping Report also refers to the 'installation of new drainage and diversions and disconnections'. Limited information is provided in respect of these works. The ES should contain a full explanation of such diversions and disconnections, including whether they are temporary or permanent, and any associated significant effects should be fully assessed.	The Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]) provides a full description of any new drainage and diversions and disconnections included in the drainage design. Any significant impacts as a result of these proposals will be included in <b>Section 20.9</b> of <b>Chapter 20</b> of the ES [TR020001/APP/5.01].
2.2.12	Planning Inspectorate	General EIA Matters	Table 13.6 of the Scoping Report outlines the material resources required for, and the waste to be generated by, the Proposed Development but does not provide any indication of likely quantities. This should be clearly set out in the ES. The nature and volume of materials should also be included in the description of the Proposed Development, including justification of any key assumptions made. It is also noted that the Scoping Report refers to five sites for the disposal of spoil; however, Figure 2.3 only shows four. This should be clarified in the ES and clearly shown on accompanying figures.	Estimated quantities of construction materials required for construction are summarised in <b>Chapter 19</b> of the ES [TR020001/APP/5.01]. All figures have been updated as appropriate for the ES.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
2.2.13	Planning Inspectorate	General EIA Matters	The Inspectorate notes that Table 3-2 states that the existing terminal capacity is set to increase from 18mppa to 21mppa in 2022. However, Section 7.6.6 of the Scoping Report states that this increase is not due to take place until 2024. Furthermore, Table 3-2 then shows a reduction in the capacity of the existing terminal from 21mppa to 18mppa in 2027, but has not provided an explanation for this. The Applicant should ensure that the finalised phases of the Proposed Development, the expected capacity of both the existing and new terminals, and the activities to be undertaken in each phase, are clearly explained in the ES and consistently reflected in the aspect assessments. Where uncertainty exists and flexibility is required the assessment should be based on worst case assumptions, particularly in respect of the duration of construction phases. The ES should assess the potential significant effects from construction activities occurring in conjunction with the operational activities of the Airport.	An explanation of the projected phasing of the Proposed Development is provided in <b>Chapter 5</b> Assessment Methodology and <b>Section 4.11</b> Construction in <b>Chapter 4</b> The Proposed Development of the ES [TR020001/APP/5.01]. An assessment of the worst case has been undertaken where appropriate in each topic chapter of the ES ( <b>Chapters 6 to 20</b> ) [TR20001/APP/5.01]. The EIA also includes an assessment of both construction and operational impacts in compliance with legislation.
2.2.14	Planning Inspectorate	General EIA Matters	The Scoping Report makes various references to 'demolition activities' but does not provide any in-depth description of what these activities involve. As part of the description of physical characteristics of the Proposed Development, the ES should provide full details of the proposed demolition works and it should be clear at what point in the construction programme the demolition activities would occur. The Applicant should ensure that the ES aspect chapters assess the likely significant effects resulting from demolition activities taking into account their extent and duration.	A description of the demolition activities is provided in <b>Chapter 4 The Proposed Development</b> of the ES [TR020001/APP/5.01]. Further information is also provided in <b>Appendix 4.1</b> Construction Method Statement and Programme Report of this ES [TR020001/APP/5.02].
2.2.15	Planning Inspectorate	General EIA Matters	Limited further information is provided on construction options. It is explained in Section 3.3.28 of the Scoping Report that an environmental appraisal of the key reasonable construction options for the Proposed Development will be undertaken as the design develops. The Applicant should ensure that the ES provides specific information on which construction activities are to take place in the different areas of the Proposed Development site and should explain the length of time that each activity shall last. Information should also be provided on the number, size and location of any construction compounds, and the potential significant effects from the use of construction compounds should be taken into consideration for each relevant aspect assessment.	Details of design evolution and construction options will be provided within <b>Appendix 4.1</b> Construction Method Statement and Programme Report of this ES [TR020001/APP/5.02]. <b>Section 4.11</b> Construction in <b>Chapter 4</b> The Proposed Development of this ES [TR020001/APP/5.01] provides a description of projected phasing and construction.
2.2.16	Planning Inspectorate	General EIA Matters	In addition to the above, the ES should also include a description of the anticipated: <ul style="list-style-type: none"> <li>• Construction methods and activities associated with each phase of construction;</li> <li>• Numbers of workers and the hours of working;</li> <li>• Types of plant and machinery;</li> <li>• Lighting equipment/ requirements, in particular any lighting at construction compounds;</li> <li>• Number, type, movements and parking of construction vehicles (both heavy goods vehicles (HGVs) and staff vehicles);</li> <li>• Noise; and</li> <li>• The draft Code of Construction Practice (CoCP) referred to in section 3.6.8 of the Scoping Report (see also comments in Section 3.2 of this Opinion).</li> </ul>	For the operational lighting equipment and requirements, refer to the Light Obtrusion Assessment provided as <b>Appendix 5.2</b> of the ES [TR020001/APP/5.02].  For the construction lighting information, refer to the CoCP provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02].

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
2.2.17	Planning Inspectorate	General EIA Matters	The EIA Regulations require that the Applicant provide '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'.	A description of the reasonable alternatives has been provided in <b>Chapter 3</b> Alternatives of this ES [TR020001/APP/5.01].
2.2.18	Planning Inspectorate	General EIA Matters	The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES. The Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.	A description of reasonable alternatives considered throughout the EIA process has been provided in <b>Chapter 3</b> Reasonable alternatives and design evolution of this ES [TR020001/APP/5.01]. Any further design evolution will be described in the ES.
2.2.19	Planning Inspectorate	General EIA Matters	The Inspectorate notes the Applicant's desire to incorporate flexibility into their dDCO and its intention to apply a Rochdale Envelope approach for this purpose. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst case scenario. The Inspectorate welcomes the reference to Planning Inspectorate Advice Note nine 'Using the 'Rochdale Envelope'' in this regard.	Acknowledged. A Rochdale Envelope approach, referring to Planning Inspectorate Advice Note nine 'Using the 'Rochdale Envelope'' has been applied to the application for development consent. A worst case scenario has been applied where necessary.
2.2.20	Planning Inspectorate	General EIA Matters	The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be clearly defined in the dDCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.	<b>Chapter 4</b> The Proposed Development, <b>Section 4.3</b> Reference design and parameters of the ES [TR020001/APP/5.01] provides greater detail of the proposals and the maximum parameters upon which the EIA is based. Sufficient detail has been provided in the ES to ensure compliance with the requirements of Regulation 14 of the EIA Regulations.
2.2.21	Planning Inspectorate	General EIA Matters	It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.	The Proposed Development has not materially changed since the receipt of the Scoping Opinion on 9 May 2019, which remains valid. Therefore, a new Scoping Opinion has not been requested.
3.0.1	Planning Inspectorate	General EIA Matters	This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements' 1 and associated appendices.	Acknowledged. No further response required as the comment is for information purposes only.
3.0.2	Planning Inspectorate	General EIA Matters	Aspects/ matters (as defined in Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.	No material changes to the Proposed Development have been proposed. Therefore, the ES has been based on the Scoping Opinion received on 9 May 2019.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
3.0.3	Planning Inspectorate	General EIA Matters	The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects/ matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.	Engagement with relevant planning authorities, statutory consultees and stakeholders was maintained throughout the EIA process in relation to the scope of the EIA. The scope of the ES was agreed and a justification has been provided in each topic chapter ( <b>Chapters 6 to 21</b> ) of the ES [TR020001/APP/5.01].
3.0.4	Planning Inspectorate	General EIA Matters	Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultation bodies agree on the adequacy of the measures proposed.	References to key mitigation measures are provided in each of the topic chapters ( <b>Chapters 6 to 21</b> ) of the ES [TR020001/APP/5.01]. A detailed list of all mitigation measures proposed for the Proposed Development, include details of mechanisms to secure their implementation is provided in the <b>Mitigation Route Map [TR020001/APP/5.09]</b> submitted as part of the application for development consent.
3.1.1	Planning Inspectorate	General EIA Matters	Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.	The Airports National Policy Statement (ANPS) does not meet criteria (a) of Section 104(2) of the Planning Act and will not "have effect" in relation to the Proposed Development at the airport. It will however be an important and relevant consideration in the determination of the application for development consent for the Proposed Development. A summary of the ANPS policies of relevance to specific environmental topics have been provided in the relevant topic chapters ( <b>Chapters 6 to 20</b> ) of the ES and in <b>Chapter 1</b> Introduction of the ES [TR020001/APP/5.01].
3.1.2	Planning Inspectorate	General EIA Matters	The designated NPS relevant to the Proposed Development is the Airports National Policy Statement (ANPS). The Scoping Report states that nature and extent of works that may be required at or near Junction 10 of the M1, as part of the Proposed Development, or implemented by the Applicant during the development programme for the Proposed Development, is not yet fully known. However, the Scoping Report further states that should the NPS for National Networks found relevant to the Proposed Development, it will be taken into consideration.	There are no elements of the Proposed Development on the national road or rail network that would be classified as a NSIP in their own right. However, the NPSNN remains an important and relevant consideration, particularly as works are proposed on the Strategic Road Network (SRN) at Junction 10 of the M1 as part of the Proposed Development. Where the relevant to the scope, methodology or application of mitigation (and where they do not repeat the policies within the ANPS) policies of the NPSNN have been considered in the topic assessments.
3.2.1	Planning Inspectorate	General EIA Matters	The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables: <ul style="list-style-type: none"> <li>• to demonstrate how the assessment has taken account of this Opinion;</li> <li>• to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;</li> <li>• to set out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures (eg a dDCO requirement);</li> <li>• to describe any remedial measures that are identified as being necessary following monitoring; and</li> <li>• to identify where details are contained in the Habitats Regulations Assessment (HRA report) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.</li> </ul>	The ES ( <b>Volume 5</b> ) has included the following recommended information where relevant in its chapters [TR020001/APP/5.01] and/or appendices [TR020001/APP/5.02]. <ul style="list-style-type: none"> <li>• a demonstration of how the assessment has taken account of the Opinion;</li> <li>• identification and collation of the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;</li> <li>• Setting out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures;</li> <li>• descriptions any remedial measures that are identified as being necessary following monitoring; and</li> <li>• Identification where details are contained in the Habitats Regulations Assessment (HRA Report, <b>Appendix 8.3</b> of the ES [TR020001/APP/5.08]) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures.</li> </ul>

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3.2.2	Planning Inspectorate	General EIA Matters	The Inspectorate considers that where a DCO application includes works described as 'Associated Development', that could themselves be defined as an improvement of a highway, the Applicant should ensure that the ES accompanying that application distinguishes between; effects that primarily derive from the integral works which form the proposed (or part of the proposed) NSIP and those that primarily derive from the works described as Associated Development. This could be presented in a suitably compiled summary table. This will have the benefit of giving greater confidence to the Inspectorate that what is proposed is not in fact an additional NSIP defined in accordance with s22 of the PA2008.	There are no proposed "associated developments" that constitute improvement of a highway as defined in accordance with Section 22 of the Planning Act 2008. Works described in <b>Chapter 4 The Proposed Development</b> of this ES [TR020001/APP/5.01] defines the extent of the Proposed Development.
3.2.3	Planning Inspectorate	General EIA Matters	As identified in Section 2 above, the Scoping Report does not provide detailed information about the proposed Off-site Highway Interventions to inform the description of likely significant effects. The ES should assess the likely significant effects which could arise from the Proposed Development as a whole, including any off-site works.	A description and the locations of the Off-site Highway Interventions are provided in <b>Chapter 2 Site and Surroundings</b> and <b>Chapter 4 The Proposed Development</b> of this ES [TR020001/APP/5.01] and are displayed on <b>Figures 4.1, 4.2 and 4.3</b> of this ES [TR020001APP/5.03].
3.2.4	Planning Inspectorate	General EIA Matters	The ES should include a description of the baseline scenario with and 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 information and scientific knowledge.	Baseline scenarios with and without the Proposed Development have been defined in <b>Chapter 5 Approach to the Assessment</b> or within topic chapters ( <b>Chapters 6 to 20</b> ) of this ES [TR020001/APP/5.01].
3.2.5	Planning Inspectorate	General EIA Matters	The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.	Details of the timescales upon which surveys have been undertaken are included in the topic specific chapters ( <b>Chapters 6 - 20</b> ) of this ES [TR020001/APP/5.01].
3.2.6	Planning Inspectorate	General EIA Matters	The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.	<b>Chapter 5 Approach to the Assessment</b> of this ES [TR020001/APP/5.01] sets out the overarching methodology and approach for the assessment. Individual methodologies are defined in topic specific chapters ( <b>Chapters 6 to 21</b> ).
3.2.7	Planning Inspectorate	General EIA Matters	Given the scale of the development, temporary construction impacts may be of considerable duration. The ES should define the timescale of impacts defined as 'temporary' and consider how the duration of particular construction activities will influence the magnitude of the impacts identified. It will also be important to consider how the time period of impacts and resulting effects may be extended due to cumulative effects.	Full descriptions of individual methodologies are defined in topic specific chapters ( <b>Chapters 6 to 20</b> ) of this ES [TR20001/APP/5.01].
3.2.8	Planning Inspectorate	General EIA Matters	The Scoping Report refers to the use of professional judgement for various matters within the aspect chapters. The application of professional judgement used within the assessment should be clearly identified and fully justified in the ES.	A full list of the competent experts who have contributed to the EIA, justifications for the application of professional judgement and professional experience is provided within each topic chapter ( <b>Chapters 6 to 21</b> ) of this ES [TR020001/APP/5.01].
3.2.9	Planning Inspectorate	General EIA Matters	The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Assumptions and limitations to assessments are defined in topic chapters ( <b>Chapters 6 to 20</b> ) of this ES [TR020001/APP/5.01].



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3.2.10	Planning Inspectorate	General EIA Matters	The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.	Estimated quantities of waste to be generated during construction and operation are presented in <b>Chapter 19</b> of the ES [TR020001/APP/5.01].
3.2.11	Planning Inspectorate	General EIA Matters	The Inspectorate notes the intention to produce a standalone lighting assessment; however, it is not clear from the Scoping Report where the lighting assessment will be located within the ES. The lighting assessment should be clearly signposted from the relevant aspect chapters in the ES, including (but not limited to) the Biodiversity, Landscape and Visual, and Cultural Heritage aspect chapters. Specific comments with respect to lighting are provided in Tables 4.12, 4.13 and 4.14 of this Opinion.	The Light Obtrusion Assessment is provided as <b>Appendix 5.2</b> of the ES [TR020001/APP/5.02].
3.2.12	Planning Inspectorate	General EIA Matters	Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, with reference to specific DCO requirements or other legally binding agreements. The Inspectorate advises that the approach to mitigation in the ES should follow the mitigation hierarchy of avoidance, mitigation, and finally compensation.	Mitigation measures and residual effects identified as part of the EIA have been included in topic chapters ( <b>Chapters 6 to 21</b> ) of this ES [TR020001/APP/5.01].
3.2.13	Planning Inspectorate	General EIA Matters	The Inspectorate notes that a draft CoCP is to be submitted as part of the DCO application, which will include draft plans such as the following: Construction Environmental Management Plan; Site Waste Management Plan; Construction Traffic Management Plan; Materials Management Plan; Soils Management Plan (SMP); Construction Noise Management Plan; Air Quality Management Plan; and Surface Water Management Plan. Where the ES relies upon mitigation measures which would be secured through management plans, it should be demonstrated (with clear cross referencing) where each measure is set out in the management plan. Paragraph 17.8.2 of the Scoping Report also states the intention to submit a Landscape and Biodiversity Management Plan. The Applicant should provide draft copies of these documents appended to the ES and/or demonstrate how they will be secured.	The ES references the relevant sections of the CoCP (provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02], those referring to the Site Waste Management Plan (SWMP) and Materials Management Plan (MMP). The SWMP and MMP is a lead contractor requirement as outlined in the CoCP. An Outline SWMP is appended to the ES as <b>Appendix 19.1</b> [TR020001/APP/5.02].
3.2.14	Planning Inspectorate	General EIA Matters	The Scoping Report proposes that decommissioning impacts are to be scoped out of the ES for two specific aspect chapters: Chapter 8 Climate Change and Chapter 9 Greenhouse Gas. Paragraph 5.2.5 also states that the assessment of potentially significant effects arising from the decommissioning of the Proposed Development is proposed to be scoped out of the ES. The Inspectorate therefore infers that the Applicant intends to scope out decommissioning impacts from the ES entirely. Having regard to the nature and characteristics of the Proposed Development the Inspectorate agrees that decommissioning can be scoped out of the ES. The Inspectorate does however, advise that the ES includes details of any infrastructure elements predicted to be decommissioned over a shorter time period and give consideration to the potential for likely significant effects to arise in relation to these elements.	It is considered that the airport, once operational, will be a permanently functional airport and that the site will not be undertaking activities that pose a long-term risk requiring detailed decommissioning plans or assessment. There are no foreseen elements of the airport which will become redundant during the lifespan of the Proposed Development. No shorter timescale decommissioning has been identified at the point of submission for development consent. Future decommissioning which arises after the consent of the Proposed Development will be subject to appropriate planning and assessment requirements.

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3.2.18	Planning Inspectorate	General EIA Matters	Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.	A description of the likely transboundary effects or lack thereof has been provided in <b>Chapter 5</b> Approach to the EIA of the ES [TR020001/APP/5.01].
3.2.19	Planning Inspectorate	General EIA Matters	The Scoping Report concludes that the Proposed Development is not likely to have significant effects on another European Economic Area (EEA) State and proposes that transboundary effects do not need to be considered within the ES. The Inspectorate notes the Applicant's conclusion in the Scoping Report; however, recommends that for the avoidance of doubt the ES details and justifies this conclusion.	The ES clearly explains transboundary effects in <b>Chapter 5</b> Approach to the EIA of the ES [TR020001/APP/5.01]. It is anticipated that the Proposed Development will cause no transboundary effects. An assessment was also undertaken by the Planning Inspectorate, which also concluded that no transboundary effects as a result of the Proposed Development were expected.
3.2.20	Planning Inspectorate	General EIA Matters	A reference list detailing the sources used for the descriptions and assessments must be included in the ES.	A reference list detailing the sources used for the descriptions and assessments has been included at the end of all ES documentation where relevant.
3.3.1	Planning Inspectorate	General EIA Matters	In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2004.	Acknowledged. Documentation containing confidential information has been provided separately and each document is clearly marked with the intention of confidentiality. These documents have not been released into the public domain.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	The host authorities consider that the ES should set out how the monitoring of the success or otherwise of mitigation proposals will be undertaken, and the process for amending mitigation if its effectiveness is demonstrated through monitoring to be not achieving the outcomes predicted. This will require on-going monitoring and reporting protocols that should be established in the DCO and should consider both construction and operational phases of the Proposed Development. During construction, for example, greater environmental impacts arising than assumed in the ES could require changes to working practices set out in the CEMP. During operation, further mitigation may be necessary in respect of aspects such as traffic congestion, noise, air quality or landscape effects to ensure that the local communities around the airport are suitably protected.	Each aspect chapter of the ES ( <b>Chapters 6 to 20 [TR020001/APP/5.01]</b> ) describes the monitoring proposed to determine the efficacy of proposed mitigation, and the mechanism by which the mitigation is secured. For example, there are aspect specific management plans and strategies such as the Outline Landscape and Biodiversity Management Plan ( <b>Appendix 8.2 [TR020001/APP/5.02]</b> ) describing measures to establish and monitor landscape and habitat mitigation. The Green Controlled Growth proposals ( <b>[TR020001/APP/7.07]</b> and <b>[TR020001/APP/7.08]</b> ) also define how air quality, carbon emissions, surface access and noise are to be monitored and independently scrutinised, with corrective mechanisms should monitoring show defined limits may be approached.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	The SR states at para. 3.1.1 that at this stage the description of the Proposed Development is indicative and subject to change before the DCO application is submitted. Section 3.5 deals with uncertainty, flexibility and the use of the "Rochdale Envelope"	Acknowledged. No further response required as the comment is for information purposes only.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	We would emphasise that this SR and the response to it, together with the Scoping Opinion that will be subsequently issued by the SoS, relate to the Proposed Development as described in the SR itself. If the Proposed Development were to change to any material degree, we consider that a further scoping stage would be needed so that all stakeholders, including the four host authorities, can ensure that the Environmental Statement (ES) will be comprehensive and robust.	Acknowledged. No further response required as the comment is for information purposes only.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	The description of the development highlights that the existing Wigmore Valley Park is located within the boundary of the Main Application Site, directly east of LTN. The SR highlights at para. 2.2.4 that this provides open space and recreational facilities. is designated as an Area of Local Landscape Value and parts of the park are designated as a County Wildlife Site (CWS).	Acknowledged. No further response required as the comment is for information purposes only.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	In general, we support the EIA methodology set out in the SR and the scope of topics to be covered.	Acknowledged that the EIA methodology and scope of topics to be covered is considered acceptable. No further response required as the comment is for information purposes only.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters	The host authorities wish to ensure that the ES is clear on mitigation measures in all topic areas including both primary measures which would form part of the design process, and secondary measures designed to address adverse effects and how these will be secured. We also consider that there should be a clear distinction between mitigation that is proposed in response to effects identified in the ES and that which is inherent in the design of the proposals. In respect of the latter, this relates to our comments above that the design of the scheme needs to be as fixed as possible to allow for a robust EIA process. It is understood that at this stage of the process there is limited detail around mitigation proposals and LLAL will need to continue close working with the host authorities to ensure mitigation is agreed. Effective mitigation and how this will be secured is a key concern of the host authorities.	An exhaustive list of all mitigation measures for the Proposed Development is provided as the Mitigation Route Map [TR020001/APP/5.09].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters Design	We understand that some flexibility may be required as the design of the scheme progresses. However, LLAL must ensure that the description of the Proposed Development is as accurate and firm as possible as this will form the basis of the Environmental Impact Assessment (EIA). We would wish to ensure the highest possible degree of certainty by the time the ES is submitted with the DCO. The description of the Proposed Development provided in the ES must be sufficiently certain to meet the requirements of the EIA Regulations. The ES must include a detailed description of all components of the Proposed Development and should include reference to the location, alignments and dimensions of each individual element, including maximum heights, design parameters and limits of deviation.	The description of the Proposed Development provided in <b>Chapter 4</b> The Proposed Development of the ES [TR020001/APP/5.01] is as accurate, certain and detailed as possible. It is understood that the description within Chapter 4 reflects that of the final design of the Proposed Development to be submitted as part of the application for development consent.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters Landscape and Visual	The ES should clearly evidence and justify the final extent of the study area used in each assessment. Where this information is set out in another ES chapter (for example the Zone of Visual Influence is used as a proxy for a 'study area' elsewhere) there should be clear cross referencing and justification.	The ES has provided a clear description and justification of the final extent of each of the study areas used for the assessments. These descriptions are provided in each chapter ( <b>Chapters 6 to 21</b> ) of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters Traffic and transport	The Policy Context section of the SR is selective in its identification of relevant local planning and transportation policies. Chapter 4 includes no reference to other Local Transport Plans (LTPs) aside from HCC's, albeit these are mentioned in topic specific chapters. However, some of the topic chapters are not comprehensive. For example, Chapter 7, Traffic and Transport, does not deal with other policies in the relevant LTPs that apply to all forms of development.	All relevant policies will be dealt with in either the <b>Transport Assessment</b> [TR020001/APP/7.02] or the ES chapter as appropriate.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters Airspace / Aviation Regulation	It is noted that the ES will include a description of a 'Do Nothing' scenario. Alongside this, we would expect LLAL to provide a robust justification as to the passenger numbers forecast to be accommodated by the Proposed Development. The justification for the passenger numbers proposed should necessarily consider forecast/proposed growth at other airports (particularly but not exclusively in the South East) and the extent to which the Business Case for LTN, taking account of other proposals, supports the level of growth proposed and justifies the associated environmental impacts at Luton compared to elsewhere.	A full explanation of the basis for the demand forecasts and the assumptions used is contained in the <b>Need Case</b> submitted as part of the application for development consent [TR020001/APP/7.04].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	General EIA Matters Airspace / Aviation Regulation	ES should provide details of all assumptions used to underpin the passenger forecasts and prior to its preparation allow for further consultation regarding those assumptions. The host authorities should be allowed the opportunity to understand and if possible agree the passenger forecasts as part of the EIA process.	A full explanation of the basis for the demand forecasts and the assumptions used is contained in the <b>Need Case</b> submitted as part of the application for development consent [TR020001/APP/7.04].
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	General EIA Matters Noise and Vibration Communication	Further to a parallel consultation on the Draft Statement of Community Consultation, we note and endorse the response submitted by Darl Sweetland (Strategic Infrastructure Project Lead – BCC). We suggest that consultation areas should be based on noise metrics in line with both our suggested revised study area (3dB below LOALL) and any communities newly overflowed at below 6,000ft.	The 2022 statutory consultation was not geographically restricted to a specific area, with consultation open to anyone who wanted to respond. However, a newsletter mailing zone was established in a defined area around the airport to notify those likely to be directly affected by the Proposed Development and this included the areas identified as being most affected by aircraft noise from both arrivals and departures (areas with five or more aircraft movements per day under 4000ft (plus 1km buffer).
Appendix 2	East Hertfordshire District Council	General EIA Matters	I can confirm that the Council does not have any comments at this moment with regards the Applicant's request to the Planning Inspectorate on behalf of the Secretary of State (SoS) for its opinion (a Scoping Opinion) as to the information to be provided in an Environmental Statement (ES) relating to the Proposed Development.	No response required as the comment is for information purposes only and to confirm lack of comment from the consultee.
Appendix 2	St Albans Council	General EIA Matters	It is noted that the Environmental Statement would cover a number of technical assessments in 5 main 'topic groups' under the broad headings of:- 1. Air Quality; Traffic & Transport; Climate Change; Greenhouse gases; Noise and vibration 2. Soils & Geology; Water Resources; and Waste and resources 3. Economics & Employment; Health & Community 4. Agricultural Land and farming; Biodiversity; Landscape and Visual effects; and Cultural Heritage 5. Major accidents and disasters St Albans City & District Council agrees with the proposed structure of the various topic chapters, as set out at paragraph 1.5 of the Scoping report, and notes that the 'in-combination' and cumulative effects of the various technical matters will also be considered through the ES. This is considered to be essential to fully inform the development process.	Acknowledged. No further response required as the comment is for information purposes only.
Appendix 2	Dacorum Borough Council	General EIA Matters	We have seen the response to the Scoping Report dated 29 April 2019 and submitted by Vincent & Goring, on behalf of Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council, and are supportive of the points and comments made within it. Please continue to include Dacorum Borough Council in the proposals as they emerge. Our main concerns and issues will be focused around the management of aircraft noise, impact on the traffic network and the wider impacts of the development on the wider economy of the area, including the Borough of Dacorum.	Acknowledged. Engagement with all relevant councils was maintained throughout the EIA process where necessary.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Chilterns Conservation Board	General EIA Matters	<p>For info, the Chilterns Conservation Board is the statutory independent corporate body for the Chilterns Area of Outstanding Natural Beauty, set up by Parliamentary Order under the provisions of Section 86 of the Countryside and Rights of Way (CRoW) Act 2000. The Chilterns Conservation Board is a statutory consultee for National Policy Statement consultations, a prescribed consultee for major infrastructure projects that affect the Chilterns AONB and an interested party for examinations in connection with Nationally Significant Infrastructure Projects that may affect the Chilterns AONB (as set out in the Infrastructure Planning (National Policy Statement Consultation) Regulations (2009), the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations (2009) and the Infrastructure Planning (Interested Parties) Regulations (2010). The Chilterns AONB is nationally protected as one of the finest areas of countryside in the UK. Public bodies and statutory undertakers have a statutory duty of regard to the purpose of conserving and enhancing the natural beauty of the AONB (Section 85 of CroW Act). Going forward the Chilterns Conservation Board would like to be involved as stakeholders and consultees on the Luton Airport please, in order to advise on whether the plans conserve and enhance the Chilterns AONB, and to ensure that the EIA and HRA include consideration of the Chilterns AONB.</p> <p>Should you require any further information please do not hesitate to contact me.</p>	<p>Engagement with the Chilterns Conservation Board (CCB) has been maintained throughout the EIA process. A description of the engagement undertaken throughout the EIA with CCB has been provided in <b>Section 14.1 of Chapter 14</b> Landscape and Visual of the ES [TR020001/APP/5.01], the <b>Consultation Report</b> submitted as part of the application for development consent [TR020001/APP/6.01] and [TR020001/APP/6.02] and <b>Appendix 8.3</b> Habitat Regulations Assessment (HRA) No Significant Effects Report (NSER) of the ES [TR020001/APP/5.02].</p>
Appendix 2	Chilterns Conservation Board	General EIA Matters Planning Luton Rising	<p>1. The Luton Airport expansion project should be assessed against whether it achieves Environmental Net Gain, in the light of the Government's 25 Year Environment Plan and the Draft Environmental (Principles and Governance) Bill 2018, and renewed public concern about climate change. Rather than the applicant's vision "to actively manage environmental impacts at the local and wider levels in line with our wider commitment to responsible and sustainable development" it should be bolder in its environmental ambition and commitments.</p> <p>At the moment it covers understanding impacts and mitigating them, but it should refer to avoiding them, using the mitigation hierarchy: 1. avoid impacts 2. mitigate and only then 3. compensate for residual impacts.</p>	<p>Noted, no action required for the EIA. All relevant policy and legislation has been considered in the ES. General policy and legislation considered is outlined in <b>Chapter 1</b> Introduction of the ES [TR020001/APP/5.01]. Discipline specific legislation is outlined in the relevant topic chapter (<b>Chapters 6 to 21</b>) of the ES [TR020001/APP/5.01].</p>
Appendix 2	Chilterns Conservation Board	General EIA Matters	<p>It is not clear why the airport expansion involves the removal of high quality attractive greenfield landscape to east of the airport, in preference re-developing and extracting spoil from beneath the run-down brownfield employment land north of the airport (Percival Way area etc). This alternative should be explored as a reasonable alternative under Schedule 4 of the EIA Regulations. Explaining the different options for the location of the terminal, as consulted on in the nonstatutory Future LuToN consultation in 2018, is not sufficient.</p>	<p>The business park north of the airport is in use by a number of businesses. The land is not within Luton Rising's ownership and would therefore require compulsory acquisition. With alternative options available, it is not considered that a case for compulsory acquisition could be made. In addition, expansion to the north would bring the airport closer to the residential properties north of Eaton Green Road, therefore, increasing impacts with regards to noise, air quality, and visual effects. As such, expansion further to the north is not considered to be a feasible alternative to the options identified within <b>Chapter 3</b> of the ES [TR020001/APP/5.01].</p>

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Appendix 2	Natural England	General EIA Matters Biodiversity	<p>Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.</p> <p>We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter only please contact Kayleigh Cheese on 02080 260981. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.</p>	<p>Natural England has been invited to and have participated in Thematic Working Group meetings as the design of the Proposed Development has progressed, as well as mitigation meetings, up to the submission of the ES.</p>
Appendix 2	Natural England	General EIA Matters	<p>PART 1: Schedule 4 of the Town &amp; Country Planning (Environmental Impact Assessment) Regulations 2017, sets out the necessary information to assess impacts on the natural environment to be included in an ES, specifically:</p> <ul style="list-style-type: none"> <li>- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.</li> <li>- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.</li> <li>- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.</li> <li>- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.</li> <li>- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.</li> </ul>	<p>Acknowledged. The ES has been prepared in compliance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The location of information within the ES required by Schedule 4 of the EIA Regulations is provided in <b>Table 1.2 of Section 1.8 in Chapter 1</b> Introduction of this ES [TR020001/APP/5.01].</p>
Appendix 2	Natural England	General EIA Matters	<p>PART 2:</p> <ul style="list-style-type: none"> <li>- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.</li> <li>- A non-technical summary of the information.</li> <li>- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.</li> </ul> <p>It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the ‘in combination’ effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.</p>	<p>Acknowledged. The ES has been prepared in compliance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The location of information within the ES required by Schedule 4 of the EIA Regulations is provided in <b>Table 1.2 of Section 1.8 in Chapter 1</b> Introduction of this ES [TR020001/APP/5.01].</p>

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Appendix 2	London Borough of Harrow Council	General EIA Matters	At present the London Borough of Harrow is not significantly impacted upon by London Luton flightpaths, nor impacts from the airport generally (i.e. transport). However, with the proposed increase from the current cap of 18 million passengers per annum to 32 million passengers per annum it is almost inevitable that there will be an increase in a range of impacts of the airport, including noise from additional flights arriving and departing the airport (from 135,500 annual air transport movements in 2017 to 212,500 by 2038). We are also aware of the potential for flightpaths to change in the future, particularly as a part of the Government's ongoing process of modernising UK airspace and / or necessitated by proposals being progressed by other airports in the South-East (such as Heathrow).	Acknowledged. No further response required as all impacts of the Proposed Development are outlined in detail in the ES.
Appendix 2	London Borough of Harrow Council	General EIA Matters	At present however, Harrow has no specific comments to make with respect to the request for scoping opinion. We would however make the following general comments as to the nature of the information that should be provided in the ES: We would expect that the assessment is undertaken in accordance with the relevant International, European and UK requirements, including the Airports National Policy Statement (where applicable).	Acknowledged. The ES has been prepared in compliance with all relevant legislation and policy.
Appendix 2	London Borough of Harrow Council	General EIA Matters GIS	Material in the ES should be presented in a way that clearly indicates the current impacts of the airport as well as those resulting from the proposed expansion (and any indicative flight path changes, if available). The material should allow for a fine grain of interrogation, so that individual property owners as well as community groups / local authorities can determine the impact of the proposals on their locality (including understanding the degree of any change from the current situation).	Acknowledged. The current impacts and baseline conditions of the airport and those that would result from the the Proposed Development have been clearly presented in the ES. Representative receptors have been identified for each of the topic assessments.
Appendix 2	London Borough of Harrow Council	General EIA Matters Noise and Vibration Airspace / Aviation Regulation	It is noted that the material submitted by the airport acknowledges the ongoing airspace change process being undertaken for the airspace over London and that NATS has indicated that Luton Airport may be a significant beneficiary of the airspace re-design (i.e. reduced 55dB noise contour). As these changes are not due to be implemented until 2024-2026, the applicant's material indicates that the noise / air quality elements of the ES will be based on current flight paths but where possible, consideration will be given to the emerging flight path designs. Whilst the use of the emerging flight paths is encouraged (i.e. using the best available data at the time), these will only indicative flight paths and will not final (and will be subject to its own consultation and adoption process). The ES should therefore use both current and indicative proposed flightpaths and clearly articulate the impacts of the worse-case scenario (compared to present) as the basis of assessing the impact of the proposed expansion / increased number of flights.	The main assessment of aircraft noise effects due to the proposed expansion is undertaken; however, a sensitivity test of potential changes to airspace has been undertaken with the aim being to demonstrate that airspace changes can be accommodated within the DCO Noise Envelope. As the airspace design of departure paths is in the initial option appraisal stage, only a series of options have been submitted to date, the sensitivity test looks to identify how noise contours area may be affected if options that may result in a change to contour shape are brought forward. Consequently, the sensitivity test is based on an airspace design option that provides the biggest change to the existing flight paths through provision of respite departure routes.
Appendix 2	Public Health England	General EIA Matters Health and Communities	The scale and nature of the proposed development results in the need for very clear reporting on the temporal impacts and effects on the local population. In this context "temporary" impacts can extend over long periods. The scoping report does not define the temporal scope of impacts. Recommendation The reporting within the Preliminary Environmental Information Report (PEIR) should use the clear definitions of temporary timescales, rather than generic temporary or permanent temporal descriptions to ensure a consistent, transparent and accurate approach to the report. Temporary timescales could be sub-divided into weeks, months or number of years.	The duration of impacts on health determinants have been taken into account in the assessment of impact 'magnitude' and have been described within the health assessment (outlined in <b>Chapter 13</b> of the ES [TR020001/APP/5.01]).  It is not possible to define a generic set of timescales for 'temporary' effects that will satisfy all determinants of health. Where the term 'temporary' has been used to describe a health effect, detail on the number of years that effect will last has been provided.

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Appendix 2	Transport for London	General EIA Matters Surface Access Traffic and Transportation	Thank you for consulting Transport for London (TfL). Although we don't have any detailed comments to make on the EIA scoping report we will wish to review the planning application and the surface access strategy when they are submitted.	No further action required. Appropriate reports will be made available for review where required.
Appendix 2	Milton Keynes Council	General EIA Matters Traffic and Transport	Milton Keynes Council, as an adjoining Local Planning Authority, have considered the information provided within the Environmental Impact Assessment Scoping Report by London Luton Airport Limited, dated March 2019, and do not have any comments to make. Our primary concerns regarding the increase in capacity at the airport will relate to the wider impact on the surrounding highway network, in particular the M1 motorway corridor, the resulting increase in traffic, and the associated environmental impacts. It would appear that the requirement to consider these impacts, as part of the Environmental Statement, has been included within the Scoping Report, and Milton Keynes Council would expect this information to be submitted as part of the forthcoming planning application.	The Strategic Model that has been developed for the assessment of the Proposed Development includes the M1 to the north and south of Junction 10. The information for the Council to consider the impact on the M1 corridor will be available in the application documents. Traffic flows presented in <b>Appendix 18.2</b> of the ES [TR020001/APP/5.02] demonstrates that north of Junction A the increase in traffic on the M1 is very low indicating that the increase of traffic in and around Milton Keynes will not result in any significant effects.
Appendix 2	Royal Mail	General EIA Matters Traffic and Transport	A representation was made by Royal Mail to LLAL's Non-Statutory Consultation in August 2018 flagging (having regard to the likely extent and duration of construction works and the magnitude of anticipated growth in passenger numbers) that there is a real risk that the project will compromise Royal Mail's operations through impact upon the local transport network. However, it is noted that section 7.3 of the Scoping Report (Stakeholder engagement and consultation) does not refer to Royal Mail's consultation response or consultations with any other major statutory road users. Accordingly, some of the content of Royal Mail's August 2018 consultation response is repeated below and Royal Mail requests confirmation from LLAL that this information will be taken into account by LLAL when progressing its Environmental Statement.	A particular concern is the need for consultation with local businesses and occupants regarding road closures/diversions during construction. The principles of consultation during the construction period are set out in the Outline Construction Traffic Management Plan, which forms <b>Appendix 18.3</b> of the ES [TR020001/APP/5.02]. Discussions have taken place between the Surface Access team and Royal Mail, the outcome of which is provided in <b>Chapter 18</b> of the ES [TR020001/APP/5.01] and the <b>Consultation Report</b> [TR020001/APP/6.01] and [TR020001/APP/6.02].
Appendix 2	National Grid	General EIA Matters Utilities	National Grid Electricity Transmission has no apparatus within or in close proximity to the proposed order limits.	Acknowledged. No further response required as the comment is for information purposes only.
Appendix 2	National Grid	General EIA Matters Utilities	National Grid Gas has no apparatus within or in close proximity to the proposed order limits.	Acknowledged. No further response required as the comment is for information purposes only.
<b>Agricultural Land Quality and Farm Holdings</b>				
4.11.1	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	The Scoping Report states that no further impacts will occur from loss of agricultural land, once the Proposed Development is constructed. The Inspectorate accepts that given this information significant effects on agricultural land quality and soil resources are unlikely to occur during operation and is content to scope these matters out. The Inspectorate considers that the potential exists for significant effects on the continued operation of agricultural holdings from traffic/ road changes and noise impacts. It is appreciated that these effects are likely to be assessed within separate relevant chapters of the ES, and cross reference to these assessments would be appropriate within the assessment of effects on agricultural interests.	<b>Section 6.9</b> in <b>Chapter 6</b> of the ES [TR020001/APP/5.01] provides an assessment of the likely significant effects of the Proposed Development on agricultural holdings. This assessment includes cross references to other relevant ES chapters, which assess effects on receptors arising from traffic/road changes and noise impacts.
4.11.2	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	The Scoping Report states that as the Proposed Development will not contain any agricultural land, designations such as Nitrate Vulnerable Zones are unlikely to be affected. Given the nature of the Proposed Development the potential for significant release of organic and inorganic fertilizer into the environment is considered low and significant effects are considered unlikely to occur. In light of this the Inspectorate agrees to scope this matter out.	Agricultural land designations, such as Nitrate Vulnerable Zones are scoped out of the ES.



ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.11.3	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	The Scoping Report states that this matter <i>[referring to permanent construction impacts on soil resources]</i> is scoped in due the potential for significant effects, but then states that effects can be reduced to minor adverse (and therefore not significant) following best practice techniques. For clarity, the Inspectorate advises that this matter is fully assessed in the ES.	An assessment of the likely significant effects of the Proposed Development on soil resources is given in <b>Section 6.9</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> .
4.11.4	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	The Inspectorate advises that the 'study area' should include the extent of the anticipated impacts, including any land-holdings outside of the 'Main Application Site' as described in Paragraph 16.4.1 which could be affected by the Proposed Development, where applicable.	The study area for the agricultural land quality and farm holdings assessment is defined in <b>Section 6.3</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> . The study area includes all land holdings outside the Main Application Site that are considered potentially susceptible to significant effects.
4.11.5	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	It is noted from the Paragraph 16.4.7 of the Scoping Report that Agricultural Land Classification (ALC) surveys were carried out in 2018 to cover land not covered by existing data sources. It is not clear if these surveys are the 'soil survey data collected on site as part of previous investigations' referred to in Paragraph 16.4.2. The ES should clearly set out details of all survey work carried out to inform the assessment.	Details of ALC surveys covering all the agricultural land within the Main Application Site are provided in <b>Section 6.7</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> and in <b>Appendices 6.3 to 6.5</b> of the ES <b>[TR020001/APP/5.02]</b> .
4.11.6	Planning Inspectorate	Agricultural Land Quality and Farm Holdings	From the information in Table 16.3 it is not clear if all the defined criteria (land-take, severance, infrastructure, nuisance) would have to be engaged or if one criterion falling into the description provided would lead to the corresponding assessment of magnitude. This should be clarified in the ES.	The assessment of magnitude is based on the highest magnitude of impact regarding the four criteria set out in <b>Table 6.9</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> (i.e. land-take, severance, infrastructure, nuisance). Only one of these criterion needs be engaged to lead to the corresponding assessment of magnitude. An assessment of the likely significant effects of the Proposed Development on agricultural holdings (as per the defined criteria: land-take, severance, infrastructure, nuisance) is given in <b>Section 6.9</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Agricultural Land Quality and Farm Holdings	In respect of the effects of the proposed development on agricultural interests, there are several issues with potential ecological consequences, including soil resources, agricultural holdings (and therefore management capability) and agri-environment schemes. It is noted the proposals will seek to avoid or reduce adverse effects on agricultural interests.	<b>Section 6.9</b> in <b>Chapter 6</b> of the ES <b>[TR020001/APP/5.01]</b> provides an assessment of the likely significant effects of the Proposed Development on soil resources and agricultural holdings.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Agricultural Land Quality and Farm Holdings	All of the land within the Hertfordshire area of the proposed Development Order Boundary is in agricultural use and adjacent to a similar but slightly smaller area in Luton. Less than half of this is proposed to remain in current agricultural use, although the majority of that lost may still require some form of agricultural management (e.g. hay cropping or grazing) as replacement habitat and open space. It is recognised the reduction in agricultural land may have an adverse effect on the holding (16.6.7). Consequently, future land use of the area will need to be adequately considered to ensure it remains properly managed to benefit both environmental as well as farming interests where appropriate.	All landscape-based mitigation would be managed and maintained in accordance with the Landscape and Biodiversity Management Plan provided as <b>Appendix 8.1</b> of the ES <b>[TR020001/APP/5.02]</b> .
<b>Air Quality</b>				
4.1.1	Planning Inspectorate	Air Quality	The Inspectorate considers that significant effects from increased flight movements are not anticipated in relation to this matter and that it may be scoped out from further assessment. This is on the basis that jettisoning of fuel is an infrequent event that will occur over water and at high altitude in order to vaporise the fuel and facilitate dispersion.	The comment from PINs that jettisoning of fuel will not result in a significant risk to air quality is noted.

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4.1.2	Planning Inspectorate	Air Quality	The Scoping Report sets out the approach to the air quality assessment, and details throughout the aspect chapter the main issues and impacts likely to occur. However, these issues/impacts are not described consistently within the chapter. The ES should clearly assess any air quality impacts where significant effects are likely to arise during both construction and operation of the Proposed Development.	This ES clearly assesses any air quality impacts where significant effects are likely to arise during both construction and operation of the proposed development in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]. The chapter and ES as a whole has been made as consistent as possible via a detailed review process with consistency checks by environmental, planning and legal specialists.
4.1.3	Planning Inspectorate	Air Quality	The Scoping Report states that consultation with the relevant local authorities will continue throughout the pre-application stages of the Proposed Development. Any agreements reached with the consultation bodies on the Applicant's methodological approach should be documented in the ES, where possible.	<b>Table 7.7 of Chapter 7</b> of the ES [TR020001/APP/5.01] includes details of consultation and agreements with consultation bodies undertaken up to the ES.
4.1.4	Planning Inspectorate	Air Quality	The Applicant proposes a study area of 15km by 15km centred on the main site of the Proposed Development, and any additional roads outside of this area. The Inspectorate considers that the model extent should not be arbitrarily defined but instead should relate to the area over which significant air quality effects arising from the Proposed Development may occur, including a consideration of any Off-site Highways Interventions. This should be clearly defined within the ES. The Applicant should make effort to agree the study area with relevant consultation bodies. The assessment in the ES should have regard to the Air Navigation Guidance 2017 with respect to the parameters for assessment of aviation emissions on local air quality.	The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3 of Chapter 7</b> of the ES [TR020001/APP/5.01]. The modelling scenarios are also provided.
4.1.5	Planning Inspectorate	Air Quality	The Scoping Report refers to local nature sites that lie within 2km of the site of the Proposed Development and refers to the biodiversity aspect chapter as providing further detail on these. The ES should provide a full assessment of the air quality impacts on these sites where significant effects are likely. Where information to support the assessment is to be presented in the biodiversity aspect chapter of the ES, clear cross referencing to the relevant sections of other chapters should be included and, where relevant, supporting plans provided in order to assist the reader.	While there is only a statutory requirement to assess air quality impacts at nationally and internationally designated nature conservation sites, potential air quality impacts (in terms of NOx and nitrogen deposition) at local sites are calculated and fully assessed within <b>Chapter 7</b> of this ES [TR020001/APP/5.01] and <b>Section 8.14 of Chapter 8</b> .
4.1.6	Planning Inspectorate	Air Quality	The Scoping Report states that baseline data collection is ongoing, with both desk studies and field surveys undertaken to date. The ES should clearly set out all studies and surveys undertaken to inform the final baseline information, including the timing of any site visit and how/if professional judgement has been applied. The Applicant should make effort to agree its approach with the relevant consultation bodies.	The location and data collection for on-going surveys has been discussed and agreed with the relevant local authorities. Details of baseline information collected to date are included in <b>Chapter 7</b> of the ES, <b>Section 7.7 [TR020001/APP/5.01]</b> , as well as the approach taken.
4.1.7	Planning Inspectorate	Air Quality	The Scoping Report states that the future assessment years are based on current forecast passenger demands and proposed capacity phasing. The Inspectorate understands that these demands could change, and that this would also have a bearing on the assessment scenarios to be used in the Traffic and Transport aspect chapter. The ES should also assess effects occurring during key phases of the construction and operation of the Proposed Development, outlined at Paragraph 3.6.2 of the Scoping Report as 2027 and 2036. The ES should clearly set out the years on which the assessments have been undertaken, providing a full justification for the years chosen.	This ES has assessed future assessment years of 2027 (21.5mppa), 2039 (27mppa) and 2043 (32mppa) using current demand forecasts. These are clearly reported in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]. Assessment for sensitivity testing related to faster or slower growth scenarios is all presented in the ES ( <b>Section 7.9</b> ). The reasons for these years being selected are described in <b>Chapter 5</b> of this ES [TR020001/APP/5.01].
4.1.8	Planning Inspectorate	Air Quality	The Scoping Report states that the potential odours from construction will be considered as part of the soils and geology assessment rather than within the air quality aspect chapter. The ES should contain adequate cross referencing to direct the reader to the relevant sections of the ES to ensure that a robust assessment of air quality impacts has been undertaken.	The potential for odour from construction activity has been considered in the methodology provided in <b>Appendix 7.1</b> of this ES [TR020001/APP/5.02]. The results of the odour assessment are provided in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01].

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4.1.9	Planning Inspectorate	Air Quality	The Scoping Report states that 'the air quality assessment will determine the population affected by significant concentrations' and that this will then be considered in the health and community aspect chapter. The ES should contain adequate cross referencing to direct the reader to the relevant sections of the ES to ensure that a robust assessment of air quality impacts to the health of receptors has been undertaken.	The ES has determined the population affected by significant concentrations and the results of significance are provided in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]. Cross referencing is provided where appropriate.
4.1.10	Planning Inspectorate	Air Quality	The Applicant should also give consideration to operational mitigation measures such as single engine taxi, measures to incentivise reductions in use of aircraft auxiliary power units whilst on stand (using fixed electrical ground power and preconditioned air) in its assessment.	Operational mitigation measures have been embedded in the design and an Outline Operational Air Quality Plan ( <b>Appendix 7.5</b> of this ES [TR020001/APP/5.02]) has been included with this ES detailing all proposed mitigation measures.
4.1.11	Planning Inspectorate	Air Quality	The ES should include an assessment of the impacts associated with activities involving combustion, where they are likely to give rise to significant effects.	This ES includes assessment of on-site combustion activities where they are likely to give rise to significant effects. See <b>Section 7.5 of Chapter 7</b> of the ES [TR020001/APP/5.01].
4.1.12	Planning Inspectorate	Air Quality	The Inspectorate considers that the potential for air quality effects on rivers and flood storage areas due to deposition of pollutants should be taken into account within the assessment, particularly where the Proposed Development has potential to give rise to stagnant or low flow conditions, where likely significant effects could occur.	With regards to nitrogen deposition as a result of NOx emissions, an assessment of impacts at relevant ecological sites has been carried out in this ES, <b>Section 7.5 of Chapter 7</b> of the ES [TR020001/APP/5.01]. The Proposed Development does not give rise to any stagnant or low flow conditions in any water body. No surface water flood storage areas are proposed, and those existing are for attenuation not permanent storage. The Proposed Development does not increase flood risk. Therefore, no significant effects are likely and these receptors are not considered further in this assessment.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Air Quality	Currently no areas of Buckinghamshire will fall within the study area, therefore all impacts will be scoped out of the report. There is however, recent strong evidence to suggest that the spread of carbon monoxide from air traffic has considerable health effects at a 10 kilometre distance from major airports. When taken together with potential additional traffic emissions, air quality and consequential health effects are naturally of concern. Based on this we would suggest the study area is extended to a 25km by 25km grid area centred on the main application site and additionally that consideration should be given to including key sites within north Buckinghamshire, which may be affected by pollutants from air traffic (such as Edlesborough or Dagnall), alongside those which are likely to experience additional ground vehicle emissions (such as Pitstone, Ivinghoe or Wing). This will give confidence to rural communities who have concerns about the cumulative effect on air quality locally.	The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3 of Chapter 7</b> of the ES [TR020001/APP/5.01], which is not limited to the 15km by 15km study area. This follows national and industry guidance. The modelling scenarios are also provided.
Appendix 2	Civil Aviation Authority	Air Quality	With reference to paragraphs 6.8.1 to 6.8.6 we note that the applicant should consider referring also to operational measures such as single engine taxi, measures to incentivise reductions in use of aircraft APUs whilst on stand (using fixed electrical ground power, FEGP and preconditioned air, PCA).	Operational mitigation measures have been embedded in the design and a Outline Operational Air Quality Plan ( <b>Appendix 7.5</b> of this ES [TR020001/APP/5.02]) has been included with this ES detailing all proposed mitigation measures.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Chilterns Conservation Board	Air Quality	Why is the Air Quality study area (a square of 15km) skewed so that Luton Airport is not in the centre of the study area? See Figure 6.1 in Volume 2. The area west of Luton including the Chilterns AONB is mainly excluded, and the area north and east of Luton is covered more than its share. We object to the air quality study area for the EIA because it fails to cover the flightpaths. Luton Airport already affects all of the Chilterns AONB as it lies under the flight paths and holding stacks for Luton and Heathrow airports. The EIA should investigate what the air quality effects be during the operational life of the expanded airport and over the full area that will be impacted. Passenger's journeys to airports are typically long and the airport has a far longer reach than the study area shows.	The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3 of Chapter 7</b> of the ES [TR020001/APP/5.01], which is not limited to the 15km by 15km study area. This follows national and industry guidance. The modelling scenarios are also provided.
Appendix 2	Chilterns Conservation Board	Air Quality	Figure 6.3 and 6.7 why are there so few (only 1) air quality automatic monitors in Luton Borough Council's area near the airport itself? Why are there none on the road network between the airport and junction 10 of the M1? Especially since the EIA Scoping Report states at para 2.3.24 that "The majority of vehicles accessing LTN do so from the M1 and Luton via New Airport Way (the A1081)". There is also an absence of monitors on the A6 north of Luton and the A505 north east of Luton which should be addressed to consider air quality impacts of increased traffic from the proposed airport expansion.	Details of air quality monitoring in the study area including scheme specific monitoring and monitoring carried out by London Luton Airport Operations Ltd (LLAOL) (the current operator of the airport) and local authorities are provided in <b>Appendix 7.2</b> of this ES [TR020001/APP/5.02].
Appendix 2	Natural England	Air Quality	Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition (England Biodiversity Strategy, Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The assessment should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System [REDACTED]. Further information on air pollution modelling and assessment can be found on the Environment Agency website.	Assessment of impacts at ecological sites has been carried out in this ES, <b>Section 7.9</b> . Details of the ecological receptors are provided in <b>Appendix 7.1</b> of this ES [TR020001/APP/5.02]. Full details of the mitigation proposed can be found in the <b>Mitigation Route Map</b> submitted as part of the application for development consent [TR020001/APP/5.09] and air quality specific measures in <b>Appendix 7.5</b> [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	4.1 - In general terms we are satisfied with the approach to Air Quality Assessment. 4.2 - Surface Access: the inclusion of local and regional traffic modelling that considers the impact on all roads in the area is welcomed as is the provisional identification of the highway mitigation proposals on roads where there is an air quality problem, including the four schemes in Hitchin. As noted in Section 2.0 above, we consider that finalising the off-site highways interventions will be important.	The interventions have been included in the air quality assessment provided in <b>Chapter 7</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	Code of Construction Practice: the inclusion of a Construction Environmental Management Plan (CEMP), Construction Traffic Management Plan (CTMP) and Air Quality Management Plan is welcomed as key mechanisms for addressing air quality. However, see comments above at para. 2.12 regarding these being in 'draft' rather than certified documents at the time the DCO is determined.	The documents have been prepared for the ES and are provided in <b>Appendix 4.2</b> Code of Construction Practice (CoCP) [TR020001/APP/5.02], <b>Appendix 18.3</b> Outline Construction Traffic Management Plan (Outline CTMP) [TR020001/APP/5.02] and <b>Appendix 7.5</b> Outline Operational Air Quality Plan [TR020001/APP/5.02].

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Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	Scoped in/out topics: we accept the range of topics scoped into the ES in respect of air quality with one exception. We do not consider that Emergency Fuel Jettison should be scoped out. This has been the subject of significant issues with local residents over a number of years such that when incidents do occur their effect can be significant. The ES should consider the changes in ATMs and how many of these events could occur in the future and their impact.	Jettisoning of fuel is an infrequent event that will occur over water and at high altitude in order to vaporise the fuel and facilitate dispersion. The assessment of this has been scoped out of requiring further assessment.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	Assessment Scenarios/Years: the principle of the approach outlined on pages 62-63 is supported as are the proposed assessment scenarios detailed in para. 5.3.9. However, it is considered that the flexibility retained by para. 5.3.10 is vital and may need to be applied with respect to the air quality modelling.	This ES has assessed future assessment years of 2027 (21.5mppa), 2039 (27mppa) and 2043 (32mppa) using current demand forecasts. These are clearly reported in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]. Assessment for sensitivity testing related to faster or slower growth scenarios is all presented in the ES ( <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]). The reasons for these years being selected are described in <b>Chapter 7</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	The following areas of concern are raised : a) Localised Air Quality Assessment where highways interventions are proposed: it is noted that the methodology for the assessment of the offsite highway mitigations is yet to be defined. Road traffic issues have direct implications on local air quality. Where off-site highway interventions are proposed, we consider that specialist and localised air quality impact assessment will be required. NHDC have a particular concern in this regard with the four highway mitigations proposed for Hitchin.	The spatial changes to the road network as a result of the highway interventions have been accounted for in the dispersion modelling for the air quality assessment (provided in <b>Chapter 7</b> of the ES [TR020001/APP/5.01], along with the emissions from the traffic flows as a result of the interventions.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	b) Given the identification of highway mitigations within and immediately adjacent to the two Air Quality Management Areas (AQMAs) in Hitchin it will be necessary to demonstrate the general approach and the detailed methodology that will be applied to the Air Quality Assessment to incorporate the various mitigation proposals, as well as the possibility that any one or combination of the various mitigation proposals will not be implemented.	<b>Section 7.5 of Chapter 7</b> of the ES [TR020001/APP/5.01] outlines the methodology employed for assessing the likely significant effects on air quality from the construction and operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in <b>Section 3 of Appendix 7.1</b> of this ES [TR020001/APP/5.02]. Full details of the mitigation proposed can be found in the <b>Mitigation Route Map</b> submitted as part of the application for development consent [TR020001/APP/5.09].
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	c) Assessment years: the years provisionally selected for the air quality impact assessment (para. 6.5.9) are only broadly justified in para. 6.5.10 and they do not include 2027 or 2036 which are identified on p.43 as being the years provisionally identified as when design capacity is to be reached for Phase 1 and Phase 2 respectively. The reasons why these two years are not included with the other five assessment scenarios must be justified and agreed, or they should be added to the existing list of assessment scenarios. An additional scenario year of 2034 or 2036 should be added and is particularly important given that a 9 year gap between the 2029 and 2038 assessment scenarios is currently proposed. At the very least an additional scenario should be added in between the proposed dates – potentially 2034.	This ES has assessed future assessment years of 2027 (21.5mppa), 2039 (27mppa) and 2043 (32mppa) using current demand forecasts. These are clearly reported in <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]. Assessment for sensitivity testing related to faster or slower growth scenarios is all presented in the ES ( <b>Section 7.9 of Chapter 7</b> of the ES [TR020001/APP/5.01]). The reasons for these years being selected are described in <b>Section 7.3</b> of this ES [TR020001/APP/5.01].
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	d) Secondary mitigation: in Section 6.8 the absence of any commitment to the provision of secondary mitigation (as defined in para. 5.3.26) is unacceptable.	Operational mitigation measures have been embedded in the design and a Outline Operational Air Quality Plan ( <b>Appendix 7.5</b> of the ES [TR020001/APP/5.02]) has been included with this ES detailing all proposed mitigation measures.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	e) AQIA Scoping: a commitment is required that a standalone and detailed Air Quality Impact Assessment Scoping Document is submitted to the host authorities for agreement prior to its implementation. This requirement reflects the fact that only the broad principles of the Air Quality Impact Assessment have been provided in this EIA SR.	<b>Section 7.3 of Chapter 7</b> of the ES [TR020001/APP/5.01] outlines the scope of the assessment and <b>Section 7.5</b> outlines the methodology employed for assessing the likely significant effects on air quality from the construction and operation of the Proposed Development. Full details of the methodology, including relevant assumptions and limitations, can be found in <b>Sections 2 and 3 of Appendix 7.1</b> of this ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	4.7 The following points of detail are also raised.  4.8 Paragraph 6.4.16 states that “There are no Part A process (sic) with emissions to air listed on the Environment Agency website within approximately 10km of the Main Application Site.” It should be noted that IBC Vehicles Ltd, located on Kimpton Road, is a Part A2 process regulated by LBC	A review of sources of air pollution in the study area identified there are no Part A1 processes within 10km of the Proposed Development. Part A2 and Part B processes in the study area are not considered to be significant point sources of emissions and impacts from these sources is taken into account within the background concentrations included in the assessment. All other key sources, roads, aircraft, airport operations have been explicitly assessed.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	Describing Luton AQMA 1, Table 6-3 states that “No monitoring has been undertaken in the AQMA from 2013 to 2017.” It should be noted that, as Luton AQMA 1 & 2 overlap, LN15 [Armitage Gardens] and LN86 [Bradley Road (by M1 Bridge)] are in actuality located in both AQMAs.	It is noted there are two monitoring locations in the AQMA (LN15 and LN86). Luton AQMA 1 and Luton AQMA 2 overlap and therefore the two monitoring locations in Luton AQMA 1 are also located in Luton AQMA 2. No exceedances were recorded at LN15 of the NO2 annual mean standard from 2013 to 2019. LN86 was installed in 2017 and recorded an annual mean NO2 concentration of 39µg/m3 in 2019, which is below the annual mean standard. Details of local monitoring are provided in <b>Appendix 7.2</b> of this ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality	Paragraph 6.4.19 states that “Automatic monitoring of pollutants is undertaken by LBC at three locations...” Currently, LBC has two autoanalysers (one of nitrogen dioxide [NO2] and one for particulate matter [PM]) co-located at its monitoring site on Dunstable Road East. Paragraph 6.4.24 states that “LBC operates 47 diffusion tube sites...” Currently, LBC undertakes diffusion tube monitoring at 42 unique locations.	Details of air quality monitoring in the study area including scheme specific monitoring and monitoring carried out by London Luton Airport Operations Ltd (LLAOL) (the current operator of the airport) and local authorities are provided in <b>Appendix 7.2</b> of this ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Air Quality Traffic and Transport	We are concerned that for some topic areas the study area is not yet defined (e.g. air quality and transport), is potentially too limited in extent and has not been evidenced, or has been defined but is likely to be related to those topics awaiting definition.	The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3 of Chapter 7</b> of the ES [TR020001/APP/5.01]. The modelling scenarios are also provided.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Chilterns Conservation Board	Air Quality Biodiversity	<p>The Air Quality monitoring appears to focus on Air Quality Management Areas (monitoring cars in already polluted urban areas) and lacks any consideration of effects of air pollution on natural habitats. See for more information Plantlife’s report We Need To Talk About Nitrogen. This is especially important for the SSSIs, and it is critically important for the Chiltern Beechwoods Special Area of Conservation (mapped on Figure 17) which is an internally important biodiversity designation. All three of the Special Areas of Conservation in the Chilterns AONB (Chilterns Beechwoods SAC, the Aston Rowant SAC and Hartslock Wood SAC have already breached their critical loads for air pollution. For example, see Natural England, Supplementary Advice for Chiltern Beechwoods SAC, Nov 2018: "The supporting habitat of this feature is considered sensitive to changes in air quality and is currently exceeding the critical load for nitrogen (October 2018). This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it."</p> <p>The Chilterns Beechwoods Special Area of Conservation (SAC) is in close proximity to motorways and major roads which are likely to experience increased traffic from the expansion of Luton Airport. The Aston Rowant SAC is possibly the only SAC in the UK which is actually severed by a motorway, with the vast cutting of the M40 motorway constructed through this nature reserve in the 1960s. The M25 also cuts through the Chilterns through the AONB. Increased traffic for Luton Airport could have an effect on air quality, noise and habitats. Air pollution and effects on sensitive habitats and protected sites of national and international importance must be carefully addressed through Environmental Impact Assessment and Habitat Regulations Assessment.</p>	<p>An assessment of the effect of construction traffic related NOx concentrations is provided within the <b>Chapter 7</b> Air Quality of the ES [TR020001/APP/5.01]. An assessment of nitrogen deposition impacts upon those relevant designated nature conservation sites that are sensitive to changes in air pollution such as NOx, has been made within the Habitat Regulations Assessment (HRA) No Significant Effects Report (NSER), within <b>Appendix 8.3</b> HRA of the ES [TR020001/APP/5.08].</p> <p>Given the separation distance between the Proposed Development and the Sites raised in the comments, and the fact they do not lie on the ARN for the Proposed Development, no pathways for effect have been identified. This has included consideration of potential air quality changes and associated deposition of air-borne pollutants from aircraft arriving and departing the airport and vehicle emissions resulting from an increase in road traffic travelling to and from the Proposed Development.</p>
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Air Quality Surface Access	<p>As much of the impact on air quality in north Buckinghamshire is likely to be from additional vehicle movements and emissions, the issues raised in relation to chapter 7 are especially important. We are particularly concerned about the lack of origin/destination data for trips to and from the airport, alongside the lack of fast and non congested busses serving the airport from locations in north Buckinghamshire. Given the proposed growth in Aylesbury alone, the associated demand from the area is likely to make up a good deal of the additional passenger capacity, causing a likely increase in vehicle emissions in some villages which are already commuter routes such as Wing, Pitstone and Ivinghoe alongside arterial routes such as the A41, A418, A4146 and B489.</p>	<p>The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3</b> of <b>Chapter 7</b> of the ES [TR020001/APP/5.01]. The modelling scenarios are also provided.</p>

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<b>Biodiversity</b>				
1.1.13	Planning Inspectorate	Biodiversity	The Inspectorate notes the submission of a Habitats Regulations Assessment (HRA) Screening Report appended to the Scoping Report (Appendix C) and the potential need to carry out an assessment under Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.	A No Significant Effects Report (NSER) is included in <b>Appendix 8.3</b> of the ES <b>[TR020001/APP/5.08]</b> .
4.12.1	Planning Inspectorate	Biodiversity	<p>Section 17.7 states that otter, water vole, white-clawed crayfish, and other aquatic invertebrates are to be scoped out due to the absence of watercourses within the 'Main Application Site'. It is not clear from the Scoping Report what is meant by the 'Main Application Site' although Figure 2.1 is provided and labels an area of the Proposed Development boundary crossing the River Lea on the A1081 as 'off-site car parks' which have been proposed to be scoped out of the assessment (see below). Table 3.1 and Figure 2.1 indicate works to the A602 which cross the Ippollitts Brook near Hitchin.</p> <p>Paragraph 17.4.37 notes that the citation for River Lea County Wildlife Site (CWS) includes water vole. The CWS is not labelled on Figure 17.2 and therefore it is not possible to determine its location relative to the Proposed Development. The Inspectorate considers that indirect impacts could occur on the River Lea, and therefore its flora, fauna and the CWS. Similarly, other watercourses including those which are of conservation concern (eg chalk streams) could be affected by the Proposed Development. The information in the Scoping Report is not sufficient to exclude significant effects and therefore the Inspectorate does not agree to scope these matters out. The ES must assess indirect impacts on watercourses and identify any significant effects on associated habitats, protected species, and other species of conservation concern.</p>	<p>Potential for initial indirect effects on nearby watercourses have been assessed with <b>Chapter 20</b> Water Resources and Flood Risk of this ES <b>[TR020001/APP/5.01]</b>, and it has been determined that there will be no significant adverse effects. A WFD compliance assessment is provided within <b>Appendix 20.2</b> of this ES <b>[TR020001/APP/5.02]</b> and a Hydrogeological Risk Assessment: Drainage is provided within <b>Appendix 20.6</b> of this ES <b>[TR020001/APP/5.02]</b> in line with the EA methodology, to inform the detailed assessment of potential impacts on the upper Lee (or Lea) Chalk WFD waterbody.</p> <p>In relation to protected species surveys, the initial decision to scope them out was made on the basis of the absence of suitable habitats within the Main Application Site (as defined on <b>Figure 2.2</b> Development Areas of the ES <b>[TR020001/APP/5.03]</b>).</p> <p>For the sake of completeness surveys have been undertaken on watercourses adjacent to the Proposed Development for their potential to support otter (<i>Lutra lutra</i>), water vole (<i>Arvicola amphibius</i>), white-clawed crayfish (<i>Austropotamobius pallipes</i>) and other aquatic invertebrates. Potential direct or indirect effects, as a result of the Proposed Development, have been assessed and presented in <b>Section 8.9</b> and <b>8.14</b></p>
4.12.2	Planning Inspectorate	Biodiversity	The Scoping Report states in Paragraphs 17.4.36 and 17.4.43 that field survey, following standard guidance, has established the likely absence of these species from the 'Main Application Site'. Full details of the field surveys including the ponds surveyed are not provided in the Scoping Report, and the 'Main Application Site' is not defined. The Scoping Report states that access was not possible for all ponds within the study area however the implications for the conclusion of likely absence are not discussed. The 'off-site' areas within the Proposed Development are stated as being excluded, however insufficient justification is provided for this. The Inspectorate does not consider that sufficient information has been provided to confidently conclude that no significant effects could occur on these species, and therefore cannot agree to scope these matters out of the assessment. Accordingly, the ES should include an assessment of these matters where there is a likely significant effect.	Surveys have been undertaken for hazel dormouse and great crested newt confirming the likely absence of these species. Full methodologies and results for all ecological surveys to date are included within the Ecology Baseline Report within <b>Appendix 8.1</b> of this ES <b>[TR020001/APP/5.01]</b> , this includes maps illustrating survey extents and findings as appropriate. Discussion of survey results for these species was included within the 2022 Technical Working Group (TWG) meetings with relevant stakeholders, who were not expecting these species to be present within the Proposed Development and agreed with the conclusion of their likely absence.



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4.12.3	Planning Inspectorate	Biodiversity	The Scoping Report states that the areas where these proposals are located are of negligible ecological value. No further information, such as Phase 1 survey data, is provided. The potential for indirect impacts giving rise to ecological effects, for example pollution events or disturbance through noise and lighting, is not explored in the Scoping Report. Notwithstanding the existing paucity of habitats of ecological value in these areas indicated by the Scoping Report, the proposed works could give rise to indirect impacts. The Inspectorate considers that the ecological effects from these works should be assessed in the ES where significant effects could arise, and does not agree to scope them out of the ES.	Additional surveys of Off-site Car Park and Highway Intervention areas have been undertaken. Relevant assessment has been undertaken, and potential effects are addressed in <b>Section 8.9 and 8.14 of Chapter 8</b> of the ES [TR020001/APP/5.01].
4.12.4	Planning Inspectorate	Biodiversity	The Scoping Report describes the study area in relation to 'the Main Application Site'. Paragraphs 17.4.9 to 11 describe statutory sites, including international sites, in relation to the 'Main Application Site'. Table 17.2 lists non-statutory sites within 2km of the 'Proposed Development'. The study area must be clearly defined in the ES, and any figures accompanying the ES should also clearly depict the study area applied to the assessment. The study area should be based on the anticipated geographical extent of impacts, and in the case of the Proposed Development this may include consideration of changes to ATMs for air quality and noise effects on ecological receptors.	The study area for the assessment is set out within <b>Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01], <b>Section 8.3, Table 8.6</b> . The anticipated geographical extent of impacts and required study area have been re-assessed for the ES and are presented in <b>Section 8.3.5</b> .
4.12.5	Planning Inspectorate	Biodiversity	The ZoI will be established with regards to the Main Application Area and this should reflect the full extent of the Proposed Development and its likely impacts. The Scoping Report states that the Off-site Car Parks and Off-site Highway Interventions are located in areas of negligible ecological value and are not discussed further in the baseline. The ES should include a robust analysis of the baseline supported by appropriate desk-based analysis and site-specific surveys where necessary.	The anticipated geographical extent of impacts and required study area have been re-assessed for the ES. The study area is defined and justified within <b>Section 8.3 of Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01]. This includes both the Main Application site, and the Off-site Car Parks and Highways Interventions, which have also been subject to surveys where appropriate, as detailed within the Ecology Baseline Report ( <b>Appendix 8.1</b> of this ES [TR020001/APP/5.02]).
4.12.6	Planning Inspectorate	Biodiversity	Paragraph 17.6.2 mentions 'a range of further ecological surveys' to be undertaken to inform the ecological impact assessment of the 'Proposed Development'. Paragraphs 17.4.63 to 17.4.69 refer to the Main Application Site. The ES must define the study area applied and provide justification for the geographical extent of the surveys. The assessment should be based on the anticipated extent of the impacts of the Proposed Development.	The anticipated geographical extent of impacts and required study area have been re-assessed for the ES. The study area is defined and justified within <b>Section 8.3 of Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01]. This includes both the Main Application site, and the Off-site Car Parks and Highways Interventions, which have also been subject to surveys where appropriate, as detailed within the Ecology Baseline Report ( <b>Appendix 8.1</b> of this ES [TR020001/APP/5.02]).
4.12.7	Planning Inspectorate	Biodiversity	The Scoping Report indicates that impacts to breeding birds will be assessed; however, there is no further information regarding the intended breeding bird surveys. For clarity, the Inspectorate consider these surveys are necessary to inform the assessment. The ES must describe all the survey works and data gathering which form the basis for the assessment.	The study area for breeding bird surveys is set out within <b>Section 8.3, Table 8.6 of Chapter 8 Biodiversity</b> of this ES [TR020001/APP/5.01], with methodology presented in <b>Section 8.4</b> and the Ecology Baseline Report ( <b>Appendix 8.1</b> of this ES [TR020001/APP/5.02]). The results of these surveys informed the assessment and potential effects are addressed in <b>Section 8.9, Section 8.11 and 8.14</b> .

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.12.8	Planning Inspectorate	Biodiversity	<p>Figure 17.2 (non-statutory designated sites) does not depict all of the sites listed in Table 17-2 as stated by the Scoping Report. Any figures presented in the ES should be complete and at an appropriate scale to illustrate the relevant baseline information.</p> <p>The joint response from HCC, North Hertfordshire District Council (NHDC), CBC and LBC highlights three CWS under consideration by NE as Sites of Special Scientific Interest (SSSIs), along with other information about the presence and nature of other non-statutory and statutory sites which may be affected by the Proposed Development. The Applicant is advised to consult with the local authorities to ensure accurate information about sites of ecological value is taken into account in the assessment.</p>	<p><b>Figure 8.2</b> Non-Statutory Designated Sites of this ES [TR020001/APP/5.03] includes all relevant nature conservation sites discussed within the ES <b>Chapter 8</b> Biodiversity [TR020001/APP/5.01] and the Ecology Baseline Report (<b>Appendix 8.1</b> of this ES [TR020001/APP/5.02]). Discussion during the TWG meetings with the local councils included non-statutory sites where relevant.</p> <p>Two of the three nature conservation sites discussed as being under consideration as SSSIs have now become SSSIs and are assessed as such. These are now presented in <b>Figure 8.1</b> Statutory Designated Sites of this ES [TR020001/APP/5.03].</p>
4.12.9	Planning Inspectorate	Biodiversity	<p>This paragraph of the Scoping Report states that a significant effect at a national level would be a material consideration for a NSIP, and that significant effects at district level should be a material consideration for district planning applications. The Inspectorate advises that the purpose of the ES is to assess and present the likely significant environmental effects resulting from the Proposed Development. The ES assessment methodology should avoid conflating issues between the assessment of significant effects and the weight that may or may not be afforded to the assessment in the decision-making process.</p> <p>The statement in Paragraph 17.5.3 does not align with the methodology for determining significance presented in Section 5.3 and Paragraphs 17.5.8 to 17.5.11 of the Scoping Report, and for clarity, the Inspectorate requests that a consistent methodology is applied in the ES.</p>	<p>The methodology for assessment within <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01] is presented in <b>Section 8.5</b>. The assessment follows a consistent methodology in line with the principles of the CIEEM guidance on Ecological Impact Assessment (2018) and does not refer to weight of significant effects afforded in the decision making process.</p>
4.12.10	Planning Inspectorate	Biodiversity	<p>Advice on mitigation is provided in Section 3 of this Scoping Opinion, and similar advice applies to measures proposed for the purposes of environmental enhancement. Measures to be provided to mitigate impacts predicted through the EIA process should be clearly stated in the ES and secured in the dDCO, as appropriate. The ES should clearly identify significant effects that are to be mitigated and those that are to be included as part of a biodiversity net gain metric. The Inspectorate notes from Paragraph 17.8.2 the intention to submit a Landscape and Biodiversity Management Plan as part of the ES and advises that this should accord with the assessment of residual effects.</p>	<p>Potential significant effects are addressed in <b>Section 8.9, Section 8.11 and 8.14</b> of <b>Chapter 8</b> Biodiversity of this ES [TR020001/APP/5.01]. Mitigation measures are set out in <b>Section 8.8</b> of <b>Chapter 8</b> Biodiversity of this ES [TR020001/APP/5.01] for embedded and good practice measures, and Section 8.10 for additional mitigation required. The measures to establish, manage and monitor areas of habitat creation within the Proposed Development are detailed within an outline Landscape and Biodiversity Management Plan (LBMP), which is provided in <b>Appendix 8.2</b> of the ES [TR020001/APP/5.02]. BNG has been provided as per the BNG report <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02].</p>
4.12.11	Planning Inspectorate	Biodiversity	<p>The Applicant should consider whether the proposed mitigation and enhancement has the potential to increase bird-strike risk. Design of new wetland habitats, such as through the drainage strategies, should minimise their attractiveness to species of birds hazardous to air traffic.</p>	<p>With the exception of a cluster of three very small ponds within the Habitat Creation area to the east of the Main Application site, the Proposed Development does not currently include the provision of surface waterbodies. The landscape scheme for the Proposed Development is designed to include management measures to avoid any significant increase in bird strike risk. Please refer to the Bird Strike Risk Assessment (<b>Appendix 8.4</b> of this ES [TR020001/APP/5.02]).</p>

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4.12.12	Planning Inspectorate	Biodiversity	<p>The Scoping Report identifies lighting impacts during both construction and operation of the Proposed Development. The Inspectorate notes the reference to a lighting assessment in Paragraph 5.4.19 and expects that this information will be applied to the biodiversity assessment. Lighting impacts on birds are mentioned in relation to the operation of the Proposed Development but not for the construction phase. The Inspectorate considers that impacts from lighting during construction should be assessed in the ES where significant effects are likely to occur. As identified above, the Inspectorate considers that lighting impacts could result from the off-site car park and highways proposals and advises that any likely significant effects should be assessed in the ES.</p>	<p>An assessment of lighting impacts upon all sensitive ecological receptors, including Off-site Car Park and Highway Interventions where appropriate, during both the construction and operation of the Proposed Development, is included, and potential effects are addressed in <b>Section 8.9 and 8.14 of Chapter 8 Biodiversity</b> of this ES <b>[TR020001/APP/5.01]</b>.</p>
4.12.13	Planning Inspectorate	Biodiversity	<p>The ES should consider any likely significant effects associated with increased recreational pressure on ecological features/sites of importance as a result of displaced users of existing green space to be lost to/affected by the Proposed Development, notably Wigmore Park CWS. The ES should include appropriate cross-reference to other relevant aspect chapter assessments in this regard, including the Health and Community and Landscape and Visual aspect chapters, which are proposed to include assessment of effects to open space and users.</p>	<p>This assessment has determined any likely effects associated with increased recreational pressure on the ecological features/sites of importance, and the results of significance are provided in Section 8.9 and summarised in Section 8.14 of Chapter 8 Biodiversity of this ES <b>[TR020001/APP/5.01]</b>. Mitigation, where necessary is stated within Section 8.8 and Section 8.10 of Chapter 8 Biodiversity of this ES <b>[TR020001/APP/5.01]</b>. Cross referencing to other chapter assessments is provided where appropriate.</p>
Appendix 2	Forestry Commission	Biodiversity	<p>Having read the London Luton Airport Limited Scoping Report it is clear that Government Policy relating to ancient woodland, the biodiversity and landscape important of native woodland and the need for compensation for the loss of woodland and veteran trees have been included in the Report. The Forestry Commission therefore has no further comment to make.</p> <p>The links below are for your reference to further technical information set out in Natural England and Forestry Commission's Standing Advice on Ancient Woodland – plus supporting Assessment Guide and Case Decisions.</p> <p>As a Non Ministerial Government Department, we provide no opinion supporting or objecting to an application. Rather we are including information on the potential impact that the proposed development would have on the ancient woodland. These comments are based upon information available to us through a desk study of the case, including the Ancient Woodland Inventory (maintained by Natural England), which can be viewed on the MAGIC Map Browser, and our general local knowledge of the area. If the planning authority takes the decision to approve this application, we may be able to give further support in developing appropriate conditions in relation to woodland management mitigation or compensation measures. Please note however that the Standing Advice states that We suggest that you take regard of any points provided by Natural England about the biodiversity of the woodland.</p> <p>[SEE LETTER FOR STANDING ADVICE AND IMPORTANT INFORMATION ON DESIGNATIONS]</p>	<p>Ancient woodland and veteran trees have been carefully considered during the design process of the Proposed Development and mitigation measures are set out in the Chapter 8 Biodiversity Section 8.8 for embedded and good practice measures, and Section 8.10 for additional mitigation required. The measures to establish, manage and monitor areas of retained Ancient Woodland and veteran trees within the Proposed Development are detailed within an outline Landscape and Biodiversity Management Plan (LBMP), which is provided in Appendix 8.2 of the ES <b>[TR020001/APP/5.02]</b>.</p>

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Natural England	Biodiversity	<p>Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. Guidelines for Ecological Impact Assessment (EcIA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.</p> <p>EcIA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EcIA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.</p> <p>The National Planning Policy Framework sets out guidance in S.174-177 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.</p>	<p>All relevant impacts to designated nature conservation sites, habitats and species that may occur as a result of the Proposed Development during construction and operation have been assessed. The method of determining ecological value and significant effects is in line with the CIEEM guidance on Ecological Impact Assessment (EcIA). The biodiversity assessment provides an assessment of the potential effects that the Proposed Development will have on designated nature conservation sites, habitats and species as per the policies listed within the NPPF.</p>
Appendix 2	Natural England	Biodiversity	<p>The ES should thoroughly assess the potential for the proposal to affect designated sites. European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition paragraph 176 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites. Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.</p> <p>Should a Likely Significant Effect on a European/Internationally designated site be identified or be uncertain, the competent authority (in this case the Local Planning Authority) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.</p>	<p>A No Significant Effects Report (NSER) has been produced to accompany the ES (<b>Appendix 8.3</b> of the ES [TR020001/APP/5.08]).</p>
Appendix 2	Natural England	Biodiversity Soils and Geology	<p>The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust, geoconservation group or local sites body in this area for further information.</p>	<p>Assessment of potential effects on the local wildlife sites has been included within <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01]. Geological and geomorphological features of scientific interest and importance were scoped out on the basis that there are none located within (or immediately adjacent to) the Proposed Development. The excavation work in the Chalk may expose features of interest, therefore a watching brief will be undertaken during earthworks and a record made if any features of significance are identified. This is stated in <b>Section 17.3</b> of ES <b>Chapter 17</b> Soils and Geology [TR020001/APP/5.01].</p>

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Appendix 2	Natural England	Biodiversity	<p>The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment. The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. In order to provide this information there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. Natural England has adopted standing advice for protected species which includes links to guidance on survey and mitigation. Potential impacts to protected orchids also need to be considered.</p>	<p>Assessment of potential effects on relevant protected species, including orchids, has been included within <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01]. Appropriate mitigation strategies accompany the ES [TR020001/APP/5.02] in <b>Appendices 8.6 to 8.10</b>.</p>
Appendix 2	Natural England	Biodiversity	<p>Part 1 The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available here <a href="https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity">https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity</a>. Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration...in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP. Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.</p>	<p>Assessment of potential effects on relevant protected species and habitats of principal importance has been included within <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01].</p>

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Appendix 2			<p>Part 2 The Environmental Statement should include details of:</p> <ul style="list-style-type: none"> <li>- Any historical data for the site affected by the proposal (e.g. from previous surveys);</li> <li>- Additional surveys carried out as part of this proposal;</li> <li>- The habitats and species present;</li> <li>- The status of these habitats and species (e.g. whether priority species or habitat);</li> <li>- The direct and indirect effects of the development upon those habitats and species;</li> <li>- Full details of any mitigation or compensation that might be required.</li> </ul> <p>The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and if possible provide opportunities for overall wildlife gain.</p> <p>The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.</p>	<p>Assessment of potential effects on relevant protected species and habitats of principal importance has been included within <b>Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01].</p>
Appendix 2	Natural England	Biodiversity	<p>The S41 list includes six priority woodland habitats, which will often be ancient woodland, with all ancient semi-natural woodland in the South East falling into one or more of the six types.</p> <p>Information about ancient woodland can be found in Natural England's standing advice [REDACTED]</p> <p>Ancient woodland is an irreplaceable resource of great importance for its wildlife, its history and the contribution it makes to our diverse landscapes. Local authorities have a vital role in ensuring its conservation, in particular through the planning system. The ES should have regard to the requirements under the NPPF (Para. 175)2 which states:</p> <p>When determining planning applications, local planning authorities should apply the following principles:</p> <ul style="list-style-type: none"> <li>a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts);</li> <li>c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.</li> </ul>	<p>Assessment of potential effects on woodland habitats, including ancient woodland, is provided within <b>Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01].</p>
Appendix 2	Natural England	Biodiversity	<p>Development provides opportunities to secure net gains for biodiversity and wider environmental gains, as outlined in the NPPF (paragraphs 8, 72, 102, 118, 170, 171, 174 and 175). We advise you to follow the mitigation hierarchy as set out in paragraph 175 of the NPPF and firstly consider what existing environmental features on and around the site can be retained or enhanced or what new features could be incorporated into the development proposal. Where onsite measures are not possible, you should consider off site measures.</p>	<p>The evolution of the design of the Proposed Development has taken into account the mitigation hierarchy and retained and avoided features such as Winch Hill Wood, management of which is incorporated into the outline LBMP (<b>Appendix 8.2</b> of the ES [TR020001/APP/5.02]). Further habitats have been retained within the proposed provision of open space, and habitat creation areas have been designed to enhance existing and create new areas of higher value habitats. All of which will also be managed as per the LBMP.</p> <p>Biodiversity Net Gain (BNG) (<b>Appendix 8.5</b> of the ES [TR020001/APP/5.02]) has been measured using the Defra metric version 3.1, with an Applicant commitment to deliver a 10% net gain which is consistent with the Environment Act 2021.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	We are satisfied that the overall approach to the EIA process in respect of biodiversity is sound. Establishing a Zone of Influence (Zol) is an accepted approach and we acknowledge that the Zol may vary by ecological feature/receptor and type of effect. The ES should consider all ecological features of importance that could be significantly affected by the Proposed Development within the Zol. This should include consideration of noise and air quality effects arising from the proposed increase in ATMs that may affect ecological receptors at a greater distance from the airport than established to date. As the study areas for noise and transport are not yet defined we question whether the Zol for biodiversity can equally be finalised. This inter-relationship between study areas should be fully explained in the ES.	Impacts on biodiversity are considered where applicable (i.e. where potential impact pathways are present to receptors) in relation to all Zols listed in the biodiversity chapter, including those for statutory and non statutory designated nature conservation sites. 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, therefore, the ZOI has been extended to the non-statutory designated nature conservation sites study area of 2km from the Main Application Site.  This is a result of air quality effects on ecological sites only which employs traffic data and is therefore inherently cumulative. Reporting of this is discussed within <b>Section 8.3.5 of Chapter 8</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	It is noted that a Habitats Regulations Assessment screening assessment has been undertaken to determine whether an Appropriate Assessment is required. It determined that there are no likely significant effects on any Natura 2000 sites within 30km (Chilterns Beechwood, Wormley Hoddesdon Park Woods and Lee Valley (also Ramsar) and so no appropriate assessment is required. We have no reason to consider the assessments as outlined within Habitats Regulation Assessment Screening Report 28 March 2019 (Appendix C) to be wrong. Consequently we accept this conclusion. The only minor comment is that Fig 1 should also show the Wormley Special Area of Conservation (SAC) as per the legend.	A No Significant Effects Report (NSER) has been produced to accompany the ES ( <b>Appendix 8.3</b> of the ES [TR020001/APP/5.08]). The Figures have been updated to show all relevant designated sites.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Considering specifically Chapter 17 of the SR, we would highlight that the Airports National Policy Statement June 2018 sets out to achieve no net loss of biodiversity (17.2.27). This is not wholly consistent with NPPF which seeks measurable net gains to biodiversity resulting from development, an expectation which will become mandatory according to Government. In any event the NPPF is policy which the SoS should take into consideration as 'important and relevant' to the decision in accordance with S.104 of PA2008.	Biodiversity Net Gain (BNG) has been measured using the Defra metric version 3.1, with an Applicant commitment to deliver a 10% net gain which is consistent with the Environment Act 2021, and is provided within <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Consequently, we consider net gain needs to be demonstrated as a consequence of the Proposed Development. Use of DEFRA's biodiversity offsetting metric is outlined as a tool to help this process. This is reflected in the emerging NHDC Local Plan with proposed Modifications (Policy NEX and supporting statements) which should also be referenced. Para. 17.2.29 refers to the Airports National Planning Policy Statement para. 5.95 which requires a 2:1 compensation ratio as a minimum. The Proposed Development should accord with this requirement and should set out how such compensation will be delivered and managed in the future.	Biodiversity Net Gain (BNG) has been measured using the Defra metric version 3.1, with an Applicant commitment to deliver a 10% net gain which is consistent with the Environment Act 2021, and is provided within <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	We consider the approach to data gathering is acceptable and follows best practice. The surveys have provided a satisfactory baseline to assess impacts of the development.	Best practice and appropriate guidelines have been followed during data gathering to provide a robust baseline to inform <b>Chapter 8</b> Biodiversity of this ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	It is highlighted that there are three sites within Luton under current consideration by Natural England as SSSIs <sup>9</sup> . All three are currently County Wildlife sites (CWSs) and it is not yet clear whether potential SSSI status would be on the CWS boundaries. All would fall within the 10km range and are referred to in the adopted Luton Local Plan. These sites are :- - Cowslip Meadow - Dallow Downs with Winsdon Hill (this site and that above appear on the NE website – and the latter site may include Castle Croft & bluebell Wood) - Bradgers Hill which is in an earlier phase of the process.	The status of these three sites were reviewed for PEIR 2022 and two of these, Cowslip Meadows DWS, and Dallow Downs and Winsdon Hill DWS, were found to have been granted SSSI status. Bradgers Hill CWS remained a CWS. This was reconfirmed to be the case for this ES. Cowslip Meadows, and Dallow Downs and Winsdon Hill have been assessed as SSSIs within <b>Chapter 8</b> Biodiversity [TR020001/APP/5.01] accordingly.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	It is believed likely that SSSI designation will take place during the timescale of the DCO process and should therefore be highlighted more prominently in the ES. Owing to their current status they all fall outside the 2km threshold for inclusion as non-statutory sites, but if/when designation occurs they will each be in the 10km zone. It would therefore be appropriate to include them now on a precautionary basis.	The status of these three sites were reviewed for PEIR 2022 and two of these, Cowslip Meadows DWS, and Dallow Downs and Winsdon Hill DWS, were found to have been granted SSSI status. Bradgers Hill CWS remained a CWS. This was reconfirmed to be the case for this ES. Cowslip Meadows, and Dallow Downs and Winsdon Hill have been assessed as SSSIs within <b>Chapter 8</b> Biodiversity [TR020001/APP/5.01] accordingly.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Winch Hill Wood is the only Hertfordshire Local Wildlife Site within the application boundary, although Burnt Wood is immediately adjacent. Other local LWS woodlands include Diamondend Springs, Limekiln Wood and Pondcroft LWS, and Withstocks Wood LWS. There are other small scattered woods, scrubby corners and occasional remnant hedgerows, otherwise the land is essentially entirely arable. Some soils in the valley bottoms east of the airport could offer opportunities for more calcareous grasslands as they appear more chalky, although the general agricultural land is of limited intrinsic ecological value. Some bird interest has been recorded.	Habitat creation and landscape resoration areas within the draft design have included incorporating some of the fields east of the airport as proposed calcareous grassland fields, which will be management as part of the outline LBMP ( <b>Appendix 8.2</b> of this ES [TR020001/APP/5.02]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Further surveys are outlined for 2019 to inform the assessment – hedgerows, badger, bats and Roman snails and we support these.	Further surveys were conducted in 2019 and subsequent years, including for hedgerows, badger, bats and Roman snails. These have been used to inform the assessment within <b>Chapter 8</b> Biodiversity of this ES [TR020001/APP/5.01].



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	In respect of paras. 17.4.18 and 17.4.24, recent scrub & bramble clearance may have increased the areas of calcareous & neutral grassland and reduced areas of scrub. The quoted figures may therefore now be out of date. Badger populations will need to be monitored as they may still show evidence of movement with respect to the baseline. There is a typographical error at para. 17.4.60 – this should read Stopsley, not 'Stopsey.'	Additional surveys have been conducted including updates of the Phase 1 Habitat survey in 2020 and 2021, and additional badger surveys including territory mapping. Further checks and groundtruthing have been conducted in 2022 to verify that the data is up to date. Details of which are provided within the Ecology Baseline Report ( <b>Appendix 8.1</b> of this ES [TR020001/APP/5.02]) and have been used to inform the assessment within <b>Chapter 8</b> Biodiversity of this ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	With respect to sources of information (para. 17.4.63), Bedfordshire Natural History Society & Bedfordshire Invertebrate Group should be among the special interest groups consulted. It should be established if any Recorders have records not submitted to Bedfordshire and Luton Biodiversity Recording and Monitoring Centre (BLBRMC).	Data has been purchased from Bedfordshire and Luton Biological Recording and Monitoring Centre (BRMC), and Herts Environmental Records Centre (HERC). It is anticipated that relevant local records held by other groups have submitted their data to the LRCs.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	We support delivery of biodiversity benefits as outlined in 17.5.5	The Proposed development has been designed to provide Biodiversity Benefits where possible. Biodiversity Net Gain (BNG) has been measured using the Defra metric version 3.1, with an Applicant commitment to deliver a 10% net gain which is consistent with the Environment Act 2021, and is provided within <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Using the definitions of ecological importance in para. 17.5.7 can be misleading. The regional category is hard to define, as most biodiversity considerations are at either National or County level. CWSs are selected at County level, but there is no category for regional sites. It could be argued that sites at the top end of CWS quality, such as Wigmore Park, are of regional importance, as would the potential SSSIs noted above. District Wildlife Sites (DWSs) are Luton Borough-wide; CWSs range from the upper thresholds of Borough sites to the lower threshold of national sites. This can lead to an undervaluing of sites in this range.	Clarification of the definitions of ecological importance is given in <b>Chapter 8</b> Biodiversity <b>Section 8.5</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	We agree with the ecological features scoped in for assessment as outlined in Table 17.3 and those scoped out in paras. 17.7.1 – 17.7.2.	Careful consideration has been given to which ecological features have been scoped in and scoped out of the EIA.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	As highlighted above, we consider that mitigation and enhancement must deliver net gains to biodiversity which should be clearly stated within the ES, given the new Government expectation outlined above. This will be determined by appropriate compensation, enhancement and management within the application boundary, and beyond if necessary to help achieve this. This will be outlined within a Landscape and Biodiversity Management Plan as stated within para. 17.8.2. and informed by an offsetting calculation. This should provide a suite of local biodiversity and environmental benefits to address the impacts and effects of the proposals. This is supported.	Biodiversity Net Gain (BNG) has been measured using the Defra metric version 3.1, with an Applicant commitment to deliver a 10% net gain which is consistent with the Environment Act 2021, and is provided within <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02]. An outline Landscape and Biodiversity Management Plan ( <b>Appendix 8.2</b> of the ES [TR020001/APP/5.02]) is included within the ES.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity Landscape Cultural Heritage	In terms of mitigation, there should be an emphasis on quality rather than mere quantity. The Proposed Development should ensure no loss of habitat – notably the Wigmore CWS, should as much as possible be mitigated within Luton Borough itself for the benefits of the community as a whole, not just residents of the Wigmore Area. These should include acquiring and bringing neglected sites into protective ownership where they are being left unmanaged and falling derelict. There are a number of these including part of Waulud's Bank SAM land adjoining Legrave Park CWS. The former could also act to protect the Scheduled Monument as mitigation for losses of archaeological heritage. Parts of the eastern valley habitats of the River Lea, such as Crick & Honeygate Hills CWS and parts of Bradgers Hill CWS would also be appropriate areas in which to provide mitigation and access for local people and landscape protection. Compulsory purchase should be considered as a last resort of securing the future of such areas the value of which is currently being degraded.	Biodiversity Net Gain (BNG) has been measured using the Defra metric version 3.1, with an Applicant Commitment to deliver a 10% net gain, and is provided within <b>Appendix 8.5</b> of the ES [TR020001/APP/5.02]. Quality is at the core of the BNG process, from the assessment of baseline which encourages retention of higher quality habitats, to the provision of enhancements to improve existing habitats, and creation of new high quality habitats to achieve the target score.  The impact on Wigmore Park CWS has been minimised by design and the mitigation for any loss is provided in connection to the remaining and surrounding habitats on land owned by the Applicant, providing connectivity benefits and avoiding compulsory purchase.  Impacts to heritage assets within the site, resulting in loss of their archaeological interest, will be mitigated by a staged programme of archaeological investigation, as set out in the CHMP in <b>Appendix 10.6</b> of this ES [TR020001/APP/5.02].  Access for the community is maintained with enhancement to remaining areas of the existing park and the provision of high quality replacement open space connected to the existing, as illustrated in the <b>Strategic Landscape Masterplan</b> [TR020001/APP/5.10].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity	Contributions to survey and management of other sites and habitats within the area should also be considered. Detailed proposals as to how this can be achieved should be set out in the proposed Landscape & Biodiversity Management Plan.	An outline Landscape and Biodiversity Management Plan is included within <b>Appendix 8.2</b> of the ES [TR020001/APP/5.02]. This includes management of appropriate areas of habitats in order to mitigate the potential effects of the Proposed Development.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity Air Quality	Effects on Local Air Quality (Chapter 6) should be assessed in respect of ecological receptors consistent with national guidelines and as such should represent an adequate assessment. We consider this acceptable.	Assessment of impacts at ecological sites has been carried out in this ES, within <b>Section 7.9</b> of <b>Chapter 7</b> of the ES [TR020001/APP/5.01]. Details of the ecological receptors are provided in <b>Appendix 7.1</b> of this ES [TR020001/APP/5.02]. Further assessment in relation to biodiversity can be found in <b>Chapter 8</b> of this ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity Climate Change Resilience	Assessment of climate change impacts (Ch.8) on the proposed development (Climate Change Resilience (CCR)) where this could have an effect on biodiversity is proposed, consistent with national guidance and best practice. We consider this to be acceptable.	Consideration of the effects on the biodiversity and climate change are covered in the In-combination Climate Change Impacts (ICCI) assessment in <b>Chapter 8</b> Biodiversity and <b>Chapter 9</b> Climate Change of the ES [TR020001/APP/5.01].

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Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity GIS	For accuracy, Fig 17.1 Chilterns Beechwoods is the SAC; Ashridge Commons and Woods is the SSSI. For completeness given some of the SSSIs shown, Fig 17.1 should also include Tewinbury SSSI north of Welwyn Garden City and Bennington High Wood SSSI east of Stevenage.	<b>Figure 8.1</b> Ecological Statutory Designated Site of this ES [TR020001/APP/5.03] has been amended as appropriate. Labels are omitted for sites beyond the 10km Study Area with the exception of the European Sites, such as the Chilterns Beechwoods Special Area of Conservation (SAC).
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity Lighting	It is important that the ES considers the impact of lighting in both construction and operation on biodiversity and there is some reference to this in the discussion on the Lighting Assessment (5.4.19 – 5.4.25). As highlighted above at para. 3.5 and 3.6, lighting could arguably be the subject of a separate chapter in the ES.	Consideration of the effects on biodiversity by both construction and operational lighting are included within the assessment in <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01].  A Light Obtrusion Assessment is provided in <b>Appendix 5.2</b> of this ES [TR020001/APP/5.02].
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Biodiversity Lighting	Existing tall lighting columns visible from some distance already have a significant effect from open countryside to the east and can therefore be seen by animals from here, even if direct illumination levels are not increased. Glare from poorly designed or prominent lamps is obtrusive visually and can impact on biodiversity depending on wavelengths. The proposals will extend the built infrastructure to the east and therefore by default, nearer to existing open countryside. Consequently the impact of associated lighting must be properly considered and mitigation addressed as necessary in the ES.	In this design, spill light has been minimised by using columns with zero tilt on luminaire heads and this is demonstrated by the Evidence from lighting calculations, which shows that the source intensity is negligible from distant observers, below targets for Zone E3.  Lighting source of 3000K CCT proposed will reduce the level of blue wavelength light which is known to have an adverse effect on biodiversity (ILP GN08).  Further details are provided in <b>Appendix 5.2</b> Light Obtrusion Assessment of this ES [TR020001/APP/5.02].
Appendix 2	Natural England	Biodiversity Climate Change Resilience	The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.	Consideration of the effects on the biodiversity and climate change are covered in the In-combination Climate Change Impacts (ICCI) assessment in <b>Chapter 8</b> Biodiversity and <b>Chapter 9</b> Climate Change of the ES [TR020001/APP/5.01]. <b>Table 9.27</b> provides a summary of the identified ICCI impacts of the climate hazard on the biodiversity, description of mitigation and likely effects on the Proposed Development.
Appendix 2	Natural England	Biodiversity Landscape	Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).	Information on local sites, and local or national biodiversity priority habitats and species have been sourced from appropriate bodies, websites, local groups and local records centres.

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Appendix 2	Chilterns Conservation Board	Biodiversity Water Utility	We question in Table 1 under Biodiversity the scoping-out of effects on watercourses. The impacts on the biodiversity and function of Chilterns chalk streams should be assessed, with careful scrutiny of where additional water supply for the expanded airport will come from. Chalk streams are an internationally rare habitat that are suffering from over-abstraction which is decreasing water levels in the streams and shortening their functional length. The River Ver, a chalk stream which supplies Luton with its public water supply, is already over-abtracted and the river bed is consistently dry for much of its former functional length and no longer flows at all within the AONB. The small Water Soil and Geology zone of influence (shown on Figure 21.2) is derisory given this important chalk stream.	<p>Potential for initial indirect effects on nearby watercourses have been assessed with <b>Chapter 20</b> Water Resources and Flood Risk of this ES [TR020001/APP/5.01], and determined that there will be no significant adverse effects. A WFD compliance assessment is provided within <b>Appendix 20.2</b> of the ES [TR020001/APP/5.02]. Further studies have been completed and presented within the ES, including a Hydrogeological Risk Assessment: Drainage (<b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]) in line with the EA methodology, to inform the detailed assessment of potential impacts on the upper Lee Chalk WFD waterbody.</p> <p>In relation to protected species surveys, the initial decision to scope them out was made on the basis of the absence of suitable habitats within the Main Application Site (as defined on <b>Figure 2.2</b> Development Areas of the ES [TR020001/APP/5.03]).</p> <p>In the interest of completeness, surveys have been undertaken on watercourses adjacent to the Proposed Development for their potential to support otter (<i>Lutra lutra</i>), water vole (<i>Arvicola amphibius</i>), white-clawed crayfish (<i>Austropotamobius pallipes</i>) and other aquatic invertebrates. Potential direct or indirect effects, as a result of the Proposed Development, have been assessed and presented in <b>Section 8.9</b> and <b>8.14</b> of <b>Chapter 8</b> of the ES [TR020001/APP/5.01].</p>
<b>Climate Change Resilience</b>				
3.2.17	Planning Inspectorate	Climate Change Resilience	The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.	<p>An assessment of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) is covered in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01].</p> <p>An assessment of vulnerability of the Proposed Development to climate change is included in <b>Section 9.9</b> of <b>Chapter 9</b> Climate Change Resilience of the ES [TR020001/APP/5.01].</p> <p>Embedded and good practice mitigation measures including the adaptive capacity to make the Proposed Development more resilient to risks from climate change are set out in <b>Section 9.8</b> and <b>Table 9.26</b> and <b>Table 9.27</b> of <b>Chapter 9</b> Climate Change Resilience of the ES [TR020001/APP/5.01].</p>
4.3.1	Planning Inspectorate	Climate Change Resilience	The Inspectorate notes that the Proposed Development is not vulnerable to or located in an area susceptible to sea level rise. The Inspectorate agrees with this approach on the basis that the Proposed Development is not vulnerable to or located in an area susceptible to sea level rise.	The Proposed Development is not vulnerable to or located in an area susceptible to sea level rise.
4.3.2	Planning Inspectorate	Climate Change Resilience	The Inspectorate agrees that decommissioning can be scoped out of the impact assessment (see also comments at Paragraph 3.2.14 of this Opinion).	Decommissioning of the airport has been scoped out of the EIA due to the length of the expected lifetime of the Proposed Development.

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4.3.3	Planning Inspectorate	Climate Change Resilience	A number of key consultation bodies have been identified by the Applicant, including local planning authorities and the Environment Agency (EA). The Applicant should ensure that other consultation bodies with statutory responsibilities for other matters relevant to this aspect assessment (eg biodiversity), such as Natural England (NE), are consulted regarding the potential for climate change effects to influence the effectiveness of any proposed mitigation measures.	<p>Consultation requests to statutory bodies such as Natural England have been undertaken and summarised within appropriate sections in the chapters of the ES. Meetings included discussions where possible about the potential for climate change effects to influence the effectiveness of any proposed mitigation measures and information gathered has been used to inform the ES.</p> <p>Consultation on climate change included meetings with the Environment Agency and Lead Local Flood Authorities, the drainage team have confirmed the use of a 40% climate change allowance within the design to account for future impacts of climate change. In addition, the drainage team have been leading on discussions with Thames Water and Affinity Water and conversations with Affinity Water. Focus of these discussions was on water resource availability and the future impacts of climate change on water resources in Luton and how mitigation measures embedded in the Drainage Design Statement provided as <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02] (such as water reuse and rainwater harvesting) will help to minimise the impact of the Proposed Development on local water resource availability.</p>
4.3.4	Planning Inspectorate	Climate Change Resilience	The ES should set out the assumptions and uncertainties in the projections and explain how these have informed the climate change risk and resilience assessments and influenced the design of the Proposed Development	The assumptions and uncertainties in this assessment are set out in <b>Section 9.6 of Chapter 9 Climate Change Resilience</b> the ES [TR020001/APP/5.01], including how these have informed the climate change resilience assessment and influenced the design of the Proposed Development.
4.3.5	Planning Inspectorate	Climate Change Resilience	The ES should set out how mitigation measures will be secured through the DCO. The ES should describe how the adaptation measures described, and those incorporated into the Climate Change Adaptation Plan, will address the need for on-going review of climate 'hazards' and risks.	Likely mitigation measures and how they will be secured through the DCO are set out in <b>Table 9.26 and Table 9.27 of Chapter 9</b> of the ES [TR020001/APP/5.01].
Appendix 2	Chilterns Conservation Board	Climate Change Resilience	Section 8 on climate change should be expanded to address mitigation. It currently focuses on adaptation and resilience (i.e. impacts of climate change on operation of an expanded airport) rather than addressing an expanded airport's role in contributing to climate change. Para 8.8.1 Vol 1 admits that climate change mitigation measures or mechanisms to reduce the potential significant effects are not yet developed and will be developed with specialists. Why such an afterthought?	<p>The purpose of the climate change resilience (CCR) assessment being undertaken as part of the Environmental Impact Assessment (EIA) is to identify the the impacts of climate change to the Proposed Development (climate change resilience) and the combined impacts of the Proposed Development and climate change on receptors in the surrounding environment (in-combination climate change impacts). The CCR assessment is provided in <b>Chapter 9 Climate Change Resilience</b> of the ES [TR020001/APP/5.01].</p> <p>The impact of the Proposed Development on the climate and associated mitigation measures are covered separately in <b>Chapter 12 Greenhouse Gases</b> of the ES [TR020001/APP/5.01]. The Greenhouse Gases (GHG) assessment has been undertaken as part of the Environmental Impact Assessment (EIA) in order to identify the impacts of the Proposed Development on the climate. Preliminary results of the GHG assessment are presented in <b>Section 12.9</b> of the ES. The output of these assessments have been used to identify appropriate and necessary adaptation and mitigation measures listed in <b>Section 12.8 and Section 12.10 of Chapter 12</b> of the ES [TR020001/APP/5.01].</p>

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Appendix 2	Chilterns Conservation Board	Climate Change Resilience Greenhouse Gases	<p>Although we welcome the inclusion of climate change and greenhouses gases within the scope of the EIA, and that this includes surface access as well as operation of aircraft (Table 1, Vol 1), the scope of the assessment has been wrongly curtailed. It is hard to think of another project in the sub-region that has the potential to contribute more greenhouse gas emissions than the expansion of Luton Airport. It has national and global consequences. We question the exclusive of cumulative effects in relation to greenhouse gasses. Para 8.6.10 of Vol 1 asserts: "It is not relevant to assess the cumulative effects with regard to CCR as the focus of this assessment is only the Proposed Development itself."</p> <p>Why? We strongly disagree with the conclusion at para 9.6.4 of Vol 1 "The requirement to present the impact of the Proposed Development in the context of the UK Carbon budgets is a cumulative assessment and as such it is concluded that further cumulative GHG emissions is scoped out."</p>	<p>The comments potentially confuse Climate Change Resilience (CCR) /Greenhouse Gases (GHG)/ In-Combination Climate Impacts (ICCI).</p> <p>The scope of the assessment is in line with the requirements of the Airports National Policy Statement (NPS).</p> <p>Para 8.6.10 is in relation to the CCR assessment of the proposed development. The EIA 2017 regulations require that the resilience of the proposed development to climate change is assessed/described. It is not possible to assess the cumulative impact of climate change on the Proposed Development.</p> <p>Para 9.6.4 is in relation to cumulative GHG impacts of the proposed scheme and other schemes in the surrounding area. As stated in the 2022 update to the IEMA guidance for assessing the GHG emissions and assessing their significance the approach to cumulative effects assessment for GHGs differs for many other EIA topics where only projects within an identified geographical bound are considered. The volume of GHG emissions in the atmosphere and the resulting impacts on climate change is affected by all sources of GHG emissions globally. As such GHG emissions impacts do not affect a definable localised area. It is therefore not considered appropriate to select certain emissions sources over another for the purpose of undertaking a cumulative GHG assessment. The method used to contextualise GHG emissions in <b>Chapter 14</b> is inherently cumulative as it considers emissions from the Proposed Development within the boundaries set for the UK carbon budgets.</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Climate Change Resilience	<p>4.44 We are broadly in agreement with the proposed approach to Climate Change assessment.</p> <p>4.45 Table 8-9: Key Climate Parameters for potentially significant operation ICCI effects must include additional potential effects of humidity and hotter temperatures as follows:</p> <ul style="list-style-type: none"> <li>- Increase in temperature and/or humidity may that result in a greater number of people sleeping with windows open exacerbating impacts of any increased noise levels resulting from increased number of flights and closer proximity of the airport's operational area to the existing residents;</li> <li>- Increase in local temperature due to loss of green space (such as Wigmore Valley Park) and increase in the airport's hard standing area in closer proximity to existing residential and commercial properties resulting in exacerbated Urban Heat Island Effect that may adversely impact health and exacerbate noise and pollution impacts of the airport's operations.</li> </ul>	<p>These impacts and other in-combination climate change impacts are addressed in the relevant discipline chapters (<b>Chapters 6-20</b>) of the ES [TR020001/APP/5.01] and summarised in <b>Section 12.13</b> in the <b>Chapter 9</b> Climate Change Resilience of the ES [TR020001/APP/5.01].</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Climate Change Resilience	<p>We note that whilst para. 8.6.9 indicates that the assessment will consider cumulative effects with respect to In-combination Climate Change Impacts (ICCI) this has not been included in the list of Environmental Topics listed in the Table 21-2: Environmental topics. This omission should be rectified.</p>	<p>The cumulative effects with respect to In-combination Climate Change Impacts (ICCI), either beneficial or adverse, of the Proposed Development and 'other development' projects in the ZOI are covered in <b>Chapter 9</b> Climate Change Resilience of the ES [TR020001/APP/5.01].</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Climate Change Resilience	The ES should consider the potential for climate change effects to influence the effectiveness of any proposed mitigation measures such as biodiversity proposals. We recommend that consultation on this continues with the host authorities but that the list of stakeholders identified in para. 8.3.1 should include Natural England.	Consideration of the effects on the biodiversity and climate change are covered in the In-combination Climate Change Impacts (ICCI) assessment in <b>Chapter 8</b> Biodiversity and <b>Chapter 9</b> Climate Change Resilience of the ES [TR020001/APP/5.01].  Consultation with Natural England has been co-ordinated with the biodiversity team.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Climate Change Resilience	We welcome the proposal at para. 8.8.3 that the ES will explain which mitigation measures would be 'embedded' and which would comprise further or additional mitigation including those incorporated into the Climate Change Adaptation Plan (CCAP). The importance of the CCAP is emphasised and it should be clear how the mitigation measures within it will be secured through the DCO.	A Climate Change Resilience Plan is no longer being submitted as part of the DCO, as all mitigation measures are detailed within <b>Chapter 9</b> Climate Change Resilience [TR020001/APP/5.01] along with information about how each measure will be secured.
Appendix 2	Welwyn Hatfield Borough Council	Climate Change Resilience Air Quality Greenhouse Gases Noise	The Council would not wish to see the proposed development have an increased impact on the borough in terms of climate change, air quality, greenhouses gases or noise, and would ideally like to see existing impacts mitigated wherever possible. I am aware that LLAL is engaging with local councils, local parish councils, community groups and local residents to establish principles for new flight paths and design envelopes, which is to be welcomed. This includes interaction with Heathrow Airport to ensure that their design envelopes do not force Luton Airport aircraft to take-off and land at a shallower angle than would otherwise be desirable and/or have to contemplate stacking arrangements.	Greenhouse Gases (GHG): GHG impacts will be mitigated where possible. Assessment and mitigation of GHG emissions is presented in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01]. LTO parameters and cruise flight path interactions with other airports are outside the scope of the GHG assessment.  The impact of noise from the Proposed Development has been assessed and all reasonably practicable measures have been explored to reduce noise. Further details can be found in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. Interactions between Luton and Heathrow airspace will be assessed as part of the Civil Aviation Authority's Airspace Change Process and will be subject to a separate assessment and consultation exercise.  Air Quality: This ES clearly assesses any air quality impacts where significant effects are likely to arise during both construction and operation of the Proposed Development in <b>Section 7.9</b> of the ES [TR020001/APP/5.01]. Operational mitigation measures have been embedded in the design and an Outline Operational Air Quality Plan ( <b>Appendix 7.5</b> of the ES [TR020001/APP/5.02]) has been included with this ES detailing all proposed mitigation measures.
<b>Cultural Heritage</b>				
4.14.1	Planning Inspectorate	Cultural Heritage	No matters have been proposed to be scoped out of the assessment.	No matters are scoped out in the ES.
4.14.2	Planning Inspectorate	Cultural Heritage	Section 19.2 sets out policies of four local planning authorities; however, Section 19.3 only describes stakeholder engagement and consultation with two of those authorities to date. A statement should be provided on which authorities act as agents for others in the matters of archaeology and cultural heritage, if relevant, to provide context.	The Proposed Development site falls within or adjacent to four local authorities: Luton Borough Council (LBC); Central Bedfordshire Council (CBC); North Hertfordshire District Council (NHDC) and Hertfordshire County Council (HCC). HCC acts on behalf of NHDC on matters related to archaeology. Consultation with the relevant officers of three local authorities (LBC, CBC and HCC) has now been undertaken as set out in <b>Table 10.6</b> of <b>Chapter 10</b> of the ES [TR020001/APP/5.01]. In addition, consultation with Historic England (HE) has also been carried out.

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4.14.3	Planning Inspectorate	Cultural Heritage	The Inspectorate notes that the extended study area will be agreed 'in collaboration with the landscape architects to reflect the ZTV developed for the LVIA'. As the parameters of the proposed development are not yet confirmed, and no ZTV is yet prepared, the review of the study area should not discount the possibility that the study area may need to be wider than 5km to assess relevant effects to the settings of heritage assets, including designated and nondesignated assets. The assessment should include consideration of the effects of overflying aircraft which may also lead to impacts on tranquillity. The Applicant should make effort to agree the study area and the heritage assets to be included in the assessment with relevant consultation bodies.	The study area has been reviewed to reflect the semi-rural location of the Proposed Development site, the Highways Interventions that are located outside of the Main Application Site as well as the increase in noise levels during the operation of the Proposed Development. As a result, three study areas have been identified in the ES (refer to Spatial Scope in <b>Section 10.3 of Chapter 10</b> of the ES [TR020001/APP/5.01]). The 2km study area for designated heritage assets has been agreed with Historic England. The 1km study area for non-designated heritage assets has been agreed with CBC and HCC. The wider study area (beyond the 2km study area) has been informed by the noise contour data and the ZTV.
4.14.4	Planning Inspectorate	Cultural Heritage	The Inspectorate notes that some on site archaeological evaluation has already commenced. Further evaluation may be required depending on the extent of works proposed in the application. The Inspectorate expects that the Applicant will make efforts to agree the extent of archaeological evaluations required with relevant consultation bodies, in order to establish baseline data and complete the assessment of likely significant effects.	Further evaluation to inform the assessment of likely effects is programmed to commence during the summer of 2022. The scope of evaluation has been agreed with Central Bedfordshire Council and Hertfordshire County Council.
4.14.5	Planning Inspectorate	Cultural Heritage	The Inspectorate expects that the ES will assess and identify any likely significant effects on the Someries Castle Scheduled Monument. The assessment should acknowledge changes in air quality and vibration which may affect the fabric of the Scheduled Monument, where likely significant effects may occur. The Inspectorate also recommends that visual representations are provided to illustrate the impact on the setting of Someries Castle Scheduled Monument.	A statement on the changes of air quality and noise and vibrations is included in Section 10.9 of this chapter. A number of visual representations that illustrate changes to the setting of Someries Castle are included in <b>Appendix 14.7</b> of this ES [TR020001/APP/5.02].
4.14.6	Planning Inspectorate	Cultural Heritage	The Inspectorate expects that the whole of Luton Hoo / Putteridge Bury RPG will be taken into account in the assessment. The Inspectorate recommends that visual representations are provided to illustrate the impact on the settings of Luton Hoo Mansion and RPG.	Luton Hoo and Putteridge Bury Registered Parks and Gardens (RPGs) fall partly within the 2km study area, however, they have been considered in their entirety. It is unlikely that Putteridge Bury RPG would experience significant effects as a result of the Proposed Development, however it has been included in this ES.  A number of visual representations that illustrate the change to the settings of Luton Hoo house and RPG are included in <b>Appendix 14.7</b> of this ES [TR020001/APP/5.01].
4.14.7	Planning Inspectorate	Cultural Heritage	The proposed assessment methodology uses standardised EIA matrices. The Inspectorate considers that the analysis of setting and the impact upon it is a matter of qualitative and expert judgement which cannot be achieved solely by use of systematic matrices or scoring systems. The Inspectorate therefore recommends that, if used, these matrices should be seen primarily as material supporting a clearly expressed and non-technical narrative argument using professional judgement. The ES should use the concepts of benefit, harm and loss (as set out in the National Planning Policy Framework) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the development upon them.	<b>Chapter 10</b> Cultural Heritage of the ES [TR020001/APP/5.01] uses standard EIA matrices; however, these matrices are used to support a clearly expressed and non-technical narrative argument using professional judgement. The ES uses the concepts of benefit, harm and loss (as set out in the NPPF) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the Proposed Development upon them (refer to <b>Section 10.9</b> ).



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4.14.8	Planning Inspectorate	Cultural Heritage	The Inspectorate advises that the assessment of heritage asset settings should be cross-referenced with other relevant ES aspect assessments, including air quality, noise, lighting and landscape and visual effects.	The setting assessment has been informed by a number of other topic assessments including Air Quality ( <b>Chapter 7</b> of the ES [TR020001/APP/5.01]), Noise and Vibration ( <b>Chapter 16</b> of the ES [TR020001/APP/5.01]), Landscape and Visual ( <b>Chapter 14</b> of the ES [TR020001/APP/5.01]), and the Light Obtrusion Assessment ( <b>Appendix 5.2</b> of the ES [TR020001/APP/5.02]) (refer to <b>Section 10.15</b> ).
4.14.9	Planning Inspectorate	Cultural Heritage	The ES should set out how the Cultural Heritage Management Plan will be secured through the DCO. The Inspectorate considers that the approach to mitigation section should emphasise the need to preserve heritage assets in-situ, where possible and appropriate. The Applicant should also make effort to agree mitigation approaches with all relevant consultation bodies and take account of potential impacts that may result to other aspects, such as biodiversity and landscape.	Mitigation proposals are set out in <b>Section 10.10</b> of <b>Chapter 10</b> Cultural Heritage of the ES [TR020001/APP/5.01]. A Cultural Heritage Management Plan (CHMP) has been produced for this ES which sets out additional mitigation strategies for cultural heritage assets ( <b>Appendix 10.6</b> of the ES [TR020001/APP/5.02]). Any agreements with the relevant consultation bodies ha been outlined in <b>Chapter 10</b> [TR020001/APP/5.01]. The adoption and implementation of the CHMP is a requirement of the DCO.
4.14.10	Planning Inspectorate	Cultural Heritage	The ES should include figures which clearly depict the location of designated and non-designated heritage assets within the Zol.	<b>Figures 10.6 to 10.9</b> of the ES [TR020001/APP/5.03] show the location of designated and non-designated heritage assets within the ZOI.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Cultural Heritage	Our most fundamental concern is the effect of new/additional noise impacts (from new flight paths or additional flight traffic) on the setting and therefore significance of any heritage assets in northern Buckinghamshire. Given the uncertainty as to airspace design and the potential for assets to be either newly or more frequently overflown, we are concerned that the proposed 2 km zones would effectively exclude any assets in northern Buckinghamshire. We are also concerned that the report only considers those assets of the highest designation (Grade I, II* and SAM) and not others (most notably Grade II, as well as non designated). Clearly there is potential for lower grade/non designated assets whose existing tranquillity forms a fundamental part of its significance to be affected. The potential to identify impact/mitigation is therefore missed and should be considered.	The wider study area, beyond the 2km study area, is informed by the extent of the Zone of Theoretical Visibility and the noise contour modelling, and has been adopted to identify potential impacts to designated heritage assets arising from changes in their setting as a result of aural and/ or visual intrusion. Non-designated heritage assets have not been included in the wider study area as changes to their settings are unlikely to result in significant effects, due to their lower value as defined in the ES methodology (refer to <b>Table 10.7, Chapter 10</b> of the ES [TR020001/APP/5.01]).
Appendix 2	Historic England	Cultural Heritage	There are a number of designated and undesignated assets within the vicinity of the airport. These include the highly designated sites at Someries Castle and Luton Hoo. Someries Castle is a medieval magnate's residence which lies just to the south of the airport. The chapel and gatehouse survive as upstanding remains together with other buried remains of both the buildings and formal gardens. These provide valuable evidence of houses of this type. The Castle is one of the earliest brick buildings in the country and is an important for illustrating construction techniques. It is a scheduled monument. To the south and south west of the airport lies the historic estate of Luton Hoo, comprising mid-eighteenth century parkland designed by Lancelot 'Capability' Brown with formal twentieth century gardens with a mansion at its heart with major phases of work dating from the same periods and numerous ancillary buildings. The landscape is grade II* and the mansion, grade I. Many of the ancillary buildings are also designated. In addition there are a number of conservation areas within Luton.	The ES is accompanied by a Cultural Heritage desk-based assessment [ <b>Appendix 10.1</b> of the ES [TR020001/APP/5.02]] and gazetteer [ <b>Appendix 10.2</b> of the ES [TR020001/APP/5.03]] which references cultural heritage assets relevant to the assessment and that are located within the study areas.

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Appendix 2	Historic England	Cultural Heritage	The proposed scope of the assessment to be undertaken in the Environmental Statement includes Cultural Heritage as a topic. The summary includes an overview of relevant legislation, policy and guidance. This includes reference to the Good Practice Advice in Planning Note 3 - The Setting of Heritage Assets. This provides general advice on understanding setting and its contribution to significance and a suggested staged approach to taking decisions on setting. This is particularly pertinent in assessing the potential impact of the proposals on the setting and significance of the surrounding heritage assets.	<b>Section 10.2 of Chapter 10</b> of the ES [TR020001/APP/5.01] includes relevant legislation, policy and guidance. Legislation is summarised in <b>Table 10.1</b> ; Policy in <b>Table 10.2</b> , and guidance, including Planning Note 3, summarised in <b>Table 10.4</b> of the ES.
Appendix 2	Historic England	Cultural Heritage	The heritage assets that would potentially be affected by the development within the study area are listed. An extended study area is also proposed and we would welcome the opportunity to comment on this in due course.	A meeting was held with officers from Historic England (HE) on 14 December 2021 to present an overview of the Proposed Development and to discuss the assessment results in the PEIR. No comment was offered on the extended study area. HE advised they would respond formally during the statutory consultation.
Appendix 2	Historic England	Cultural Heritage	The proposed methodology uses standardised EIA matrices. While these are useful tools, we consider the analysis of setting (and the impact upon it) as a matter of qualitative and expert judgement which cannot be achieved solely by use of systematic matrices or scoring systems. Historic England therefore recommends that, if used, these matrices should be seen primarily as material supporting a clearly expressed and non-technical narrative argument within the cultural heritage chapter. We note that it is proposed to use professional judgement to inform this aspect of the assessment and would stress the importance of this. The EIA should use the concepts of benefit, harm and loss (as set out in the National Planning Policy Framework) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the development upon them.	<b>Chapter 10</b> of the ES [TR020001/APP/5.01] uses standard EIA matrices; however, these matrices are used to support a clearly expressed and non-technical narrative argument using professional judgement. The ES uses the concepts of benefit, harm and loss (as set out in the NPPF) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the Proposed Development upon them (refer to <b>Section 10.9</b> ).
Appendix 2	Historic England	Cultural Heritage Landscape and Visual	It is important that the assessment is designed to ensure that all impacts are fully understood. The Cultural Heritage chapter is grouped with other inter related topics which include Landscape and Visual. We would welcome the opportunity to comment on proposed viewpoints to inform the cultural heritage assessment. We also recommend reference is made within the cultural heritage chapter to environmental impacts including noise and lighting with appropriate cross references to these chapters.	The viewpoints and photomontages were shown and discussed at the meeting with Historic England (HE) 14.12.21 and it was agreed at that meetings that they adequately covered the principal views required for the assessment. Email correspondence between the Applicant and Historic England, dated 18.07.22 - 28.07.22, concluded that the viewpoints presented in the PEIR covered the highly graded assets that fell within HE's remit, and they were therefore content with the viewpoint location and no additional locations were required for the ES.  The photomontages from Someries Castle and Luton Hoo registered park are presented in <b>Figure 10.10 to 10.15</b> of the ES [TR020001/APP/5.03] and are also presented in the Landscape and Visual Impact Assessment <b>Appendix 14.7</b> of the ES [TR020001/APP/5.02].  <b>Chapter 10</b> Cultural Heritage of the ES [TR020001/APP/5.01] includes a summary of the methodology for assessing impacts arising from noise, vibration and air quality and these impacts are assessed in Section 10.9 of Chapter 10. In addition, reference to the full ES chapters is included in <b>Chapter 10</b> Cultural Heritage [TR020001/APP/5.01].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	4.160 We agree with the SR's conclusion that cultural heritage be included in the ES and that no matters associated with cultural heritage should be scoped out. 4.161 Generally, the approach to assessment is supported but there are a number of issues with both the scope and methodology and the host authorities make the following comments.	The scope and methodology for the ES is set out in <b>Chapter 10, Sections 10.3 and 10.5</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	The Hertfordshire historic environment record should be consulted as per the NPPF paragraph 189, and it does not appear that the SR has done this. Archaeological information and its interpretation may be out-of-date and inconsistent with the NPPF. The heritage gateway website is not sufficient (para. 19.4.4).	Data from Hertfordshire Historic Environment Record has been used to inform the baseline and ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Figure 19.1 in volume two does not include any data from the historic environment record and therefore any undesignated heritage assets; this may provide a misleading picture of the character of the historic environment in the study area.	Data from Hertfordshire Historic Environment Record has been used to inform the baseline and ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Section 19.4 should be clear that the ES will assess the significance of heritage assets which may be affected by this proposal and the likelihood that further currently unknown heritage assets may be identified that could also be affected.	<b>Chapter 10 Section 10.9</b> of the ES [TR020001/APP/5.01] assesses potential impacts to the significance of heritage assets as a result of the construction and operation of the Proposed Development. Further evaluation to inform the assessment of likely effects is programmed to commence during the summer of 2022 in order to identify previously unknown heritage assets that may be affected by the Proposed Development. The scope of evaluation has been agreed with Central Bedfordshire Council and HCC.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	We are broadly satisfied that potential impacts upon key heritage assets in the area have been acknowledged, including impacts upon asset setting, and there is due recognition that these impacts need to be assessed in detail and fully understood.	Impacts to key heritage assets are detailed in <b>Section 10.9</b> of ES <b>Chapter 10</b> [TR020001/APP/5.01].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Study area : the 2km study area seems to be of a sufficient size to consider the direct and immediate impacts on heritage assets. However, the assessment should consider whether there are any heritage assets at a greater distance to the airport that would be adversely affected by the increase in ATMs that will result from the Proposed Development. This might reasonably include high value heritage assets which are sensitive to changes in the noise environment. A review of such assets close to flightpaths should be properly evidenced as to why they have been included or not. This could include assets in other authorities including Stevenage, Welwyn Hatfield and St Albans.	The wider study area has been informed by flight path and noise contour data and the ZTV. Assets that fall within these data, and potential impacts upon them arising from aural or visual intrusion, are included in the ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	The 2km study area includes Someries Castle, the majority of Luton Hoo (which comprises the Grade II* Registered Park and Garden (RPG), the Grade I Luton Hoo mansion and a number of other listed buildings). It is recommended the Cultural Heritage assessment considers the impact upon all of Luton Hoo RPG / Putteridgebury RPG rather than just that part within the 2km study area. Consideration of the topography of the area will need to be taken into account when assessing the impact upon designated and nondesignated heritage assets.	Luton Hoo RPG has been assessed in its entirety in the ES, as has Putteridge Bury RPG. The topographical setting of heritage assets has been considered as part of the assessment and informed by the site walkover survey and ZTV.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	4.168 The nationally significant Luton Hoo mansion (now Hotel) is set within a celebrated 'Capability Brown Landscape' that is defined as a Registered Park and Garden (RPG). The hotel is recognised as the 'optimum viable use' for the mansion and parkland, and is recognised as a key business in Central Bedfordshire. Beyond its historic significance, the parkland possesses a visual tranquillity which is a significant asset to the 'offer' of the hotel. 4.169 The airport occupies an open and elevated (skyline) location and the highly obtrusive impact of existing buildings and structures (notably the Easy Jet hangars WSW of the proposed terminal building) upon key views from principal rooms of the east front of the mansion, overlooking the lake, is apparent upon inspection, and is also apparent, even in glimpsed views through strong leaf cover, within the hotel grounds. 4.170 The impact of the proposed development in respect of both construction and operation in the context of the Luton Hoo mansion, its Hotel accommodation and parkland grounds, including noise and night-time impacts, need to be fully explored and reported. Impacts of Operation (including the visual impacts of new infrastructure and support buildings, and aircraft ground movements) need to be demonstrated by comprehensive visual representations.	Potential impacts to Luton Hoo RPG are addressed in <b>Chapter 10, Section 10.9</b> of the ES [TR020001/APP/5.01], including impacts arising from daytime and night-time aural and visual intrusion.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Section 19.6 of the SR discusses the Potential Significant Effects of the proposals on heritage assets and states that Someries Castle Scheduled Monument is likely to experience noise and visual intrusion both during construction and operation. The nationally significant monument of Someries Castle, constructed around the mid-1400's, is located in close proximity to the southern boundary of the airport and current Main Application Site.	Potential impacts to Someries Castle is included in <b>Chapter 10, Section 10.9</b> of the ES [TR020001/APP/5.01].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	We are of the view that the demonstrable rapid deterioration of fabric at Someries Castle cannot be explained in terms of normal building pathology. There has been demonstrable accelerated erosion and loss of brick detailing at the monument since the mid-1970's, notably the crumbling-away of historically significant corbel-table detailing above the main entrance and on the north-west turret. This detailing crucially places Someries Castle firmly in an established national chronology of early brick building.	The Air Quality assessment ( <b>Chapter 7</b> of the ES [TR020001/APP/5.01]) predicted there would be no significant effects as a result of the Proposed Development and as such, the operational Development is unlikely to result in significant effects to the castle's fabric as a result of poor air quality. Air Quality, noise and vibration effects are assessed in <b>Chapter 10</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	The real potential of adverse impacts to the monument during both construction and operation are openly acknowledged in the SR (paras 19.6.5 and 19.6.10). Significantly, however, the scoped impact is limited to the context of monument setting and visitor experience (paragraph 19.6.10).	<b>Chapter 10</b> of the ES [TR020001/APP/5.01] assesses potential impacts to Someries Castle during construction and operation. The scope of the assessment includes potential impacts arising from ground vibration during construction and aural, visual, and air quality impacts during operation.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Potential impacts to the physical fabric of a heritage asset are acknowledged in paragraph 19.5.6 of the SR. We require that air pollution and vibration impact assessments in respect of both the Construction and Operation phases of the proposed development are extended to specifically encompass effects on the fabric of the monument through on-site monitoring and evaluation. We would also expect that this assessment is undertaken in close liaison with Conservation Officers.	The Air Quality assessment ( <b>Chapter 7</b> of the ES [TR020001/APP/5.01]) predicts there would be no significant effects as a result of the Proposed Development and as such, the operational Development is unlikely to result in significant effects to the castle's fabric as a result of poor air quality. Air Quality, noise and vibration effects are assessed in <b>Chapter 10</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Modelling of any proposed landscaping and its effect on the historic environment should also be included.	Impacts to heritage assets arising from physical changes to landscape are included in <b>Chapter 10, Section 10.9</b> of the ES [TR020001/APP/5.01], including physical impacts to buried heritage assets and impacts arising from changes to setting.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	We have been liaising with AECOM (on behalf of LLAL) in order to assist with the data collation and assessment of the impact of the development proposals on the archaeological resource and are pleased to note that the EIA will consider the potential impacts on both designated and nondesignated heritage assets and would remind the applicant that any assessment of the impact on the setting of heritage assets must be undertaken using Historic England's The Setting of Heritage Assets: Historic Environment. Good Practice Advice in Planning: 3 (Historic England, 2015) in order that the ES can be considered valid. We would also expect to see visual representations to illustrate the magnitude of change that will be experienced at Someries Castle and Luton Hoo if the scheme proceeds.	Visual representations have been developed and are included in <b>Appendix 14.7</b> of the ES [TR020001/APP/5.02].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	We are content with the study areas as described in section 19.4.1-19.4.3 of the SR. However, concern is raised by the inaccuracies of figure 19.1 (Cultural Heritage Constraints Plan), which has failed to identify the known non-designated heritage assets with archaeological interest from within the Luton Borough and Central Bedfordshire Council areas. This matter needs to be addressed.	<b>Figures 10.1 to 10.3</b> of the ES [TR020001/APP/5.03] show the location of designated and non-designated heritage assets within the agreed study areas.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Heritage assets which lie outside the main application site may provide a context to help understand the significance of those within the site, so these should be discussed if appropriate; this should also apply to the discussion of heritage assets in adjoining authorities.	The study area for the collation of information on non-designated cultural heritage assets was defined as 1km from the Main Application Site. This distance has been agreed with local authority archaeology officers and is sufficient to provide the context of, and potential for, surviving archaeological remains within the Proposed Development site. The desk-based assessment ( <b>Appendix 10.1</b> of the ES [TR020001/APP/5.02]) includes reference to heritage assets outside of the study area where their inclusion aids with the cultural heritage context of the study area.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	The Proposed Development lies within a known archaeological landscape with remains dating from the later prehistoric periods onwards. Under the terms of the NPPF these are heritage assets with archaeological interest. In addition, the airport lies within the setting of a number of nationally protected designated heritage assets of the highest significance (as defined by the NPPF).	The archaeological and historical background of the Proposed Development site and agreed study area is set out in the Desk-based Assessment, <b>Appendix 10.1</b> of the ES [TR020001/APP/5.02]. This includes a chronological narrative of heritage assets, from the prehistoric period onwards, and discusses the heritage significance of assets, including contributions made by their setting.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	We agree with the proposed suite of archaeological evaluation techniques included in para. 19.4.9, and the statement that other techniques will be considered if appropriate. The assessment methodology (section 19.5) should not be restricted to desk-based assessment guidelines. The results of an archaeological evaluation of the site should be included in the ES and this should include appropriate non-intrusive surveys, intrusive investigations (for example trial trenching) and assessment of setting.	A Desk-based Assessment has been completed to accompany the ES ( <b>Appendix 10.1</b> of the ES [TR020001/APP/5.02]). In addition, geophysical survey and trial trenching have been completed in order to inform the ES, the results of which are summarised in <b>Section 10.7, Chapter 10</b> of the ES [TR020001/APP/5.01]. Further evaluation to inform the assessment of likely effects is programmed to commence during the summer of 2022 in order to identify previously unknown heritage assets that may be affected by the Proposed Development. The scope of evaluation has been agreed with Central Bedfordshire Council and HCC and the results will be included as a technical appendix to the ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Para. 19.4.8 of the SR discusses the programme of archaeological field evaluation that was undertaken to the east of Wigmore Valley Park in February 2019 and CBC confirm that the trial trenching was monitored by the CBC Archaeology Team. However, para. 19.4.8 does not acknowledge that only part of the proposed development site (within the LBC administrative area) was subject to trial trenching, neither does it give an indication of when the second phase of trial trenching will take place. Given that Figure 3.1 suggests that the area which has yet to be evaluated will be affected by: excavation earthworks, car parking, access roads, a fuel farm, a sewage treatment works, surface water treatments works and platform embankments the Archaeology Team expect that the ES will include the results of not only the trial trench evaluation in February 2019, but the whole of the area to the east of Wigmore Valley Park. Without this information CBC consider the baseline data would be incomplete.	Two phases of geophysical survey and a phase of archaeological trial trenching have been undertaken to further inform the archaeological potential of the Proposed Development site, the results of which are summarised in <b>Section 10.7, Chapter 10</b> of the ES [TR020001/APP/5.01]. Further evaluation to inform the assessment of likely effects is programmed to commence during the summer of 2022 in order to identify previously unknown heritage assets that may be affected by the Proposed Development. The scope of evaluation has been agreed with Central Bedfordshire Council and HCC and the results will be included as a technical appendix to the ES.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Cultural Heritage	Section 19.8.3 of the SR refers to the measures that may be adopted to mitigate the impact of the development proposals on the setting of heritage assets. Close liaison will be required with Landscape Officers to ensure that any physical mitigation is considered appropriate in landscape terms.	Mitigation measures to mitigate temporary impacts to heritage assets during construction are not proposed in the ES due to the temporary nature of the effect.  Mitigation measures for Luton Hoo registered park are not proposed in the ES as there are no feasible or practical measures for mitigating the effects of noise increase within a park setting.
<b>Economics and Employment</b>				
4.9.1	Planning Inspectorate	Economics and Employment	Table 5-2 states 'n/a' indicating no matters are proposed to be scoped out. However, Paragraph 14.7.1 states that no quantified assessment of the impact on tourism deficit is proposed. The Inspectorate notes the justification in the Scoping Report for the extent to which tourism effects will be assessed in the ES. On the basis of the information supplied and the nature of the likely impacts, the Inspectorate accepts the proposed approach. The Applicant should provide justification for the method of assessment in the ES and seek to agree the approach with the relevant consultation bodies.	Explanation included in the 'Matters scoped out' subsection of ES <b>Chapter 11 [TR020001/APP/5.01]</b> confirming that an assessment on the impact of the Proposed Development on tourism deficit has been scoped out. As detailed, the scoping out of the assessment was agreed with the relevant consultation bodies including Luton Rising, Central Bedfordshire, Bedfordshire Chamber of Commerce, LBC, North Herts and East Herts District Councils, SEMLEP and York Aviation.
4.9.2	Planning Inspectorate	Economics and Employment	The Inspectorate welcomes the description of the immediate and wider study areas which will be applied to the assessment. The ES should include figures to clearly depict the study areas and the key features (eg businesses) addressed in the assessment.	The immediate study area, defined as the Airport Employment Area, is presented in <b>Figure 11.1</b> of the ES <b>[TR020001/APP/5.03]</b> and includes key features such as businesses. The wider Study Area comprises the local area of Luton and the Three Counties and is shown in <b>Figure 11.2</b> of the ES <b>[TR020001/APP/5.03]</b> .
4.9.3	Planning Inspectorate	Economics and Employment	With respect to the scope of the assessment outlined in Paragraph 14.1.2 of the Scoping Report, these paragraphs do not state what data will be used to assess effects on existing businesses and employment from combined environmental factors. The note in Paragraph 14.5.9 of the Scoping Report that the findings of other aspect chapters will be reported is acknowledged; however, the ES should present the specific data and information which has informed the assessment, with cross-reference to other aspect chapters where necessary.  The impacts to direct employment are reported in Paragraph 14.4.6 with reference to the 'Three counties' study area, although no value is presented for one of these counties (Buckinghamshire). The ES should provide a comprehensive report of all existing conditions established for the assessment.	This is presented in ES <b>Chapter 11</b> at <b>Section 11.5 [TR020001/APP/5.01]</b> and draws on inputs from other disciplines including transport, noise, air quality and vibration.
4.9.4	Planning Inspectorate	Economics and Employment	The Applicant should ensure that a robust baseline is established, to be informed by a thorough consultation. The joint response in Appendix 2 from Aylesbury Vale District Council (AVDC) and Buckinghamshire County Council (BCC) highlights the production of Local Industrial Strategies by the South East Midlands Local Enterprise Partnership (LEP) and Buckinghamshire Thames Valley LEP. The baseline assessment to the ES should take into account the extent to which the Proposed Development may affect these strategies and where significant effects may occur.	The LEP SEPs or Local Industrial Strategies where available are considered as is the HM Government UK Industrial Strategy and a full review is included in the ES in <b>Section 11.2 of Chapter 11</b> Economics and Employment <b>[TR020001/APP/5.01]</b> .

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4.9.5	Planning Inspectorate	Economics and Employment	The ES should explain the future construction and operation scenarios applied to the assessment, including how the Proposed Development's phased approach to construction has been taken into account where applicable. The Inspectorate notes the inclusion of a cumulative assessment identified in Paragraph 14.4.3 and advises that the future conditions taken into account in the assessment should be clearly described in the ES. For example, the future economic conditions with respect to available housing and changes to transport infrastructure.	The effects of construction and cumulative effects on factors including housing availability have been assessed in <b>Section 11.9</b> of <b>ES Chapter 11 [TR020001/APP/5.01]</b> . Effects on transport infrastructure have been assessed in the Traffic and Transportation chapter of the ES ( <b>Chapter 18</b> Traffic and Transportation of the ES [TR020001/APP/5.01]). Construction effects are assessed in <b>Section 11.9</b> .
4.9.6	Planning Inspectorate	Economics and Employment	It is not clear from the Scoping Report how indirect and induced impacts will be assessed, and it has been understood that the 'appropriate multipliers' mentioned in Paragraph 14.5.12 will be used to assess supply chain and employee expenditure associated with the Proposed Development. The ES should clearly set out what these multipliers are, how they have been determined, and how they have been applied to the assessment.	The indirect and induced impacts associated with the operation of the airport have been estimated using operator data collected on supply chain purchases combined with Oxford Economics' economic models, based on inter-regional input-output tables. These have been used to generate appropriate multipliers which are applied to direct impacts. The direct and combined direct, indirect and induced effects are reported separately.
4.9.7	Planning Inspectorate	Economics and Employment	The information in this table and accompanying text is understood in relation to how significance will be determined as a result of magnitude of impact and sensitivity of receptor, however while a framework for assessing impact magnitude is set out in the preceding paragraphs, a similar method for assessing receptor sensitivity is not. The ES should contain this information.	The main sensitive receptors for the economic and employment assessment are businesses; employees; labour markets; and the local, regional and wider economy. The sensitivity of receptors is categorised as either 'High', 'Medium', 'low' or 'very low' using the following broad criteria:  High – where a receptor has limited ability to respond to change Medium – where a receptor has some ability to respond to change Low – where a receptor is responsive to change Very low – where a receptor is highly adaptive to change Decisions on allocating receptor sensitivity may be based on quantitative information, or qualitative assessment with professional judgement. <b>Section 11.5</b> of <b>ES Chapter 11 [TR020001/APP/5.01]</b> sets out the relationship between sensitivity, magnitude and significance.
4.9.8	Planning Inspectorate	Economics and Employment	The detail in the Scoping Report on the proposed training and employment programme is limited, and the ES should describe the proposed nature and extent of these measures and to what degree they will be expected to mitigate adverse effects. Additionally, benefits to the wider economy through employment or increased expenditure are identified but it is not clear if these will be entirely incidental or if measures are proposed to actively promote wider benefits. This information should be provided in the ES.	An Employment and Training Strategy is being developed. This sets out measures to maximise the benefits of employment and economic opportunities for Luton and Bedfordshire, Buckinghamshire, and Hertfordshire, referred to as the Three Counties. This focuses on direct and indirect benefits and mitigation. Details regarding the training and employment programme are set out in <b>Section 11.10</b> of <b>ES Chapter 11 [TR020001/APP/5.01]</b> .
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Economics and Employment	We agree with the wider study area as set out and the need to include the three counties, which is also consistent with the assessment methodology.	Acknowledged. No further response required as the comment is for information purposes only.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Economics and Employment	The report provides a detailed account of the relevant policies although we consider that reference should be made to section 6 of the NPPF (Building a strong, competitive economy) as well as section 9 of the NPPF. In addition, there appears to be no regard of the National Industrial Strategy and how the proposals fit in with the grand challenges it identifies.	References to and an overview of Section 6 and 9 of the NPPF as well as the UK National Industrial Strategy 2017 have been included within the legislation, policy and guidance section of <b>Chapter 11</b> of the ES [TR020001/APP/5.01].



ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Economics and Employment	London Luton Airport is a vital asset to the Buckinghamshire economy, providing a gateway international market for goods and services from the county and strategically located at the heart of the Oxford-Cambridge Arc. We welcome the proposals to ensure that detailed business engagement will be undertaken throughout the three counties of Bedfordshire, Hertfordshire and Buckinghamshire and would want to ensure that this engagement includes all Local Enterprise Partnerships including Buckinghamshire Thames Valley LEP and all Growth Hubs including Buckinghamshire Business First.	Ref. 11.[j] HCA (2014) Additionality Guide (4th Edition). Stakeholder engagement was undertaken for the ES and a working group was formed for Economics and Employment comprising representatives from various stakeholders from the Three Counties area and included all Local Enterprise Partnerships and Buckinghamshire Business First. Further details can be found in <b>Section 11.4 of Chapter 11</b> the ES [TR020001/APP/5.01].
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Economics and Employment	Reference is made to the SEMLEP SEP as a regional document. As you may be aware, SEMLEP are also producing a Local Industrial Strategy building on from the SEP in order to showcase the strengths of the area and direct action and investment which is due to be published in June 2019. BTVLEP are also producing a Local Industrial Strategy in order to showcase the strength and assets distinctive of the area, which is due to be published in June. These documents will also feed into an Economic Vision document which covers the Oxford to Cambridge Arc which is due for publication in May 2019. These documents will provide some strategic context on economic priorities in the area which would be useful to be referenced.	This has been included in ES <b>Chapter 11</b> [TR020001/APP/5.01] where relevant.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Economics and Employment	In terms of assessing the wider economic impacts and effects, consideration should also be given to proposed improvements in connectivity in the wider region with the opening of East West Rail western section in 2023 providing rail services between Bicester and Bedford which is due to link to Aylesbury in 2024. In addition, the Oxford to Cambridge Expressway is anticipated to be open in 2030, significantly improving journey times and links between Oxford to Milton Keynes and beyond to Cambridge, but which in turn will likely improve connectivity to Luton Airport for the wider region. These infrastructure investments are proposed in order to help unlock the economic potential of the Oxford to Cambridge Arc and lead to increased jobs and housing growth across the area. We therefore consider that these should also feed into the assessment.	As far is reasonable and applicable under the agreed methodology, relevant infrastructure changes have been included or referenced.
Appendix 2	Welwyn Hatfield Borough Council	Economics and Employment	The Council anticipates that Luton Airport is beneficial for local businesses, some of which are likely to be based in our borough. I note for example that Para 14.4.10 judges that 23% of gross wages accrue to employees who are resident in Hertfordshire. The economic opportunities afforded by the proposed development are therefore welcomed.	An <b>Employment and Training Strategy (ETS)</b> [TR020001/APP/7.05] has been developed, which sets out measures to maximise the benefits of employment and economic opportunities for Luton and the Three Counties of Bedfordshire, Buckinghamshire, and Hertfordshire.
Appendix 2	Vincent and Gorbing, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Economics and Employment	In general, we consider the approach to Economic and Employment robust. The ES should make clear how LLAL will mitigate any impact and maximise any opportunities for local businesses and fully address this issue in the ES.	<b>Section 11.8 of Chapter 11</b> of the ES [TR020001/APP/5.01] details the embedded and good practice mitigation measures for Economics and Employment. The Code of Construction Practice in <b>Appendix 4.2</b> of this ES [TR020001/APP/5.02] seeks to minimise disruption to ongoing airport operations and therefore minimise effects on airport or other employment. The design of the Proposed Development has also been configured to minimise disruption to existing local businesses.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Economics and Employment	The ES should include proactive measures to spread the potential benefits of the Proposed Development to business and the community in the wider area. Businesses and residents around the airport will experience increased noise, traffic and other undesirable effects of the expansion, whilst what mitigation there is in the document relates largely to upskilling residents (probably largely within Luton) to take advantage of both the construction and operational phases there is little offered to the wider area.	An <b>Employment and Training Strategy (ETS) [TR020001/APP/7.05]</b> has been developed. This sets out measures to maximise the benefits of employment and economic opportunities for Luton and Bedfordshire, Buckinghamshire, and Hertfordshire, referred to as the Three Counties. This focuses on direct and indirect benefits and mitigation. Details regarding the training and employment programme are set out in <b>Section 11.10 of Chapter 11</b> of the ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Economics and Employment	In addition, the ES should set out proactive measures for opening up of construction and operational supply chains to local businesses in Luton and the wider area and this should be included as a commitment in an Employment and Skills strategy.	An <b>Employment and Training Strategy (ETS) [TR020001/APP/7.05]</b> has been developed. This sets out measures to maximise the benefits of employment and economic opportunities for Luton and Bedfordshire, Buckinghamshire, and Hertfordshire, referred to as the Three Counties. This focuses on direct and indirect benefits and mitigation. Details regarding the training and employment programme are set out in <b>Section 11.10 of Chapter 11</b> of the ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Economics and Employment	Proactive advertising of spin-off and supply chain construction and operational business opportunities to local companies and a drive to bring foreign tourists to the area for e.g. weekend breaks would indicate that LLAL appreciate this and have a strategy for spreading the benefits of the expansion.	The ES has identified mitigation, although it is not an economic strategy in itself.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Economics and Employment	We are unclear as to whether the references in paragraph 14.4.15 should be to 'Bedfordshire' rather than 'Bedford.'	The source 'Annual Survey of Hours and Earnings' provides this data for Bedford, not Bedfordshire.
<b>Greenhouse Gases</b>				
4.4.1	Planning Inspectorate	Greenhouse Gases	The Inspectorate agrees that decommissioning <u>can be scoped out</u> of the impact assessment (see also comments at Paragraph 3.2.14 of this opinion).	Decommissioning of the airport has been scoped out of the EIA due to the length of the expected lifetime of the Proposed Development.
4.4.2	Planning Inspectorate	Greenhouse Gases	The Applicant intends to scope out a specific cumulative assessment for GHG emissions on the basis that the nature and assessment of GHG emissions is already inherently cumulative. The Inspectorate <u>does not agree this approach</u> in the absence of sufficient justification and considers that the Applicant should identify and consider the cumulative effects of the Proposed Development with other relevant projects or plans.	GHG emissions and their assessment are inherently cumulative for the following reasons: a. the environmental impact arising from GHGs is the aggregation and increased concentration of GHGs within the atmosphere; b. the location of the emissions source is not relevant to the impact arising from it; any development leading to GHG emissions has the same impact whether it is located near to the Proposed Development or in another region/country; and c. impacts on a given location arise from the aggregated GHG levels in the atmosphere, not from the magnitude of GHG emissions in the local area. Any attempt to compile a cumulative assessment of GHG emissions would have to include all development projects in the UK (as the impact of GHG is not related to their emission location) and for this reason the approach for managing the cumulative GHG emissions across the UK is through the adoption of national carbon budgets. The GHG assessment has considered whether the Proposed Development materially impacts the UK's ability to meet its carbon reduction targets and carbon budgets by 2050, this is presented in <b>Chapter 12 Greenhouse Gases</b> of the ES <b>[TR020001/APP/5.01]</b> .

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.4.3	Planning Inspectorate	Greenhouse Gases	The note to Table 9-3 identifies that cruise emissions are only calculated for flights departing from an airport to avoid double counting with other airport inventories. The Inspectorate recommends that the ES assesses the impact on arriving flights to the extent that the airspace change process affects the arriving traffic consistent with the CAP1616a requirements.	CAP1616 relates to airspace redesign. This DCO application does not specifically concern airspace redesign, however there is broad compatibility between the EIA and CAP1616 methods of assessment.
4.4.4	Planning Inspectorate	Greenhouse Gases	The assessment of effects should include increased GHG emissions from additional surface access for construction staff.	Results of GHG emissions from construction staff travelling to/from the site are presented in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01].
4.4.5	Planning Inspectorate	Greenhouse Gases	Table 9-4 refers to the emissions source factors; however, does not address GHGs from increased passenger journeys to and from the airport. The ES should explain how these have been taken into account.	Results of GHG emissions from surface access journeys made by passengers to/from the airport are presented in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01]. <b>Section 12.5</b> describes methodology used for calculating GHG emissions from the staff surface access journeys.
4.4.6	Planning Inspectorate	Greenhouse Gases	The temporal scope of the assessment for the construction and operational phases for this aspect of the Proposed Development is anticipated to be 2020-2050. The ES should justify the choice of peak construction and operation years selected for the assessment of emissions scenarios.	A justification for the choice of peak construction and operation years has been presented in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01]. The output of the GHG modelling has been used to identify the years with highest GHG emissions from construction and the year with the highest overall GHG impact.
4.4.7	Planning Inspectorate	Greenhouse Gases	The Scoping Report states that the future baseline will account for decarbonisation of the national grid and other technological improvements such as lower emission vehicles. The assumptions and uncertainties regarding future improvements scenarios, including any sensitivity analysis, should be clearly set out in the ES, in order to understand the reliance placed on such measures in assessing likely significant effects.	The assumptions and uncertainties regarding future improvements and the reliance placed on these measures when calculating the future scenarios is set out in <b>Chapter 12</b> Greenhouse gases of the 2022 ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Greenhouse Gases	4.49 We are broadly in agreement with the proposed approach to Greenhouse Gas emissions assessment. 4.50 At Table 9-4: example of GHG emissions source factors by scope of emissions, Scope 3 must include emissions from passengers' journeys to and from the airport.	GHG emissions from the transportation of passengers are included in the GHG assessment and preliminary results presented in <b>Chapter 12</b> Greenhouse Gases of the ES [TR020001/APP/5.01]. <b>Section 12.5</b> describes methodology used for calculating GHG emissions from the passengers surface access journeys.
<b>Health and Community</b>				
4.10.1	Planning Inspectorate	Health and Community	The Inspectorate understands that the Scoping Report is making a distinction between local population effects, which it states will be assessed in the Air Quality assessment, and wider population effects which are proposed to be scoped out. The term 'population' is not given context so it is not possible to fully understand this distinction. Reference is made to evidence which appears to be related to studies of NO2 exposure and mortality rates. The Scoping Report refers to this evidence as quantification of effects on respiratory health. Other pollutants are not explored (eg PM) and other health aspects (eg exposure to carcinogens) are not discussed in this Section of the Scoping Report. The precise nature of the matter to be excluded from the assessment is not clear, and therefore the Inspectorate cannot agree to scope this matter out.	An assessment of the operation of the Proposed Development on air quality is provided in <b>Section 13.9</b> of <b>Chapter 13</b> of the ES [TR020001/APP/5.01].  The effects of the Proposed Development on air quality have been assessed in <b>Chapter 7</b> Air quality [TR020001/APP/5.01]. As described in <b>Chapter 7</b> all air quality effects have been assessed as negligible and therefore not significant. An assessment of change in exposure predicted to occur as a result of the Proposed Development have also been presented in the ES. 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.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.10.2	Planning Inspectorate	Health and Community	<p>The Scoping Report states that the Proposed Development does not include any significant sources of EMI in proximity to sensitive receptors. The Scoping Report does not identify what these sensitive receptors would be and over what geographical extent impacts could be expected to occur. There is no specific information presented on any significant EMI sources which form part of the Proposed Development. Without this information the Inspectorate cannot agree to scope this matter out and advises that it should be assessed in the ES where significant effects could arise.</p>	<p>The geographic extent of the detectable magnetic field from a substation typically extends to between 3 and 8 metres (and in rare cases up to 15 metres). Outside of the detectable magnetic field, there can be no health effect (Ref. 14.23) Sensitive receptors include anywhere that individuals spend a significant amount of time, such as residential properties and businesses. The Proposed Development does not include any new substations or any other sources of EMI within 15m of sensitive receptors. In addition, the Proposed Development will comply with the relevant standards for electromagnetic compatibility (EMC) and personal protection, for example BS EN 50121-5:2017, BS EN 50122-1:2011 and EU Directive 2013/35/EU Electromagnetic Fields (EMF) limits (Ref. 14.25), enforced in the UK by the Control of Electromagnetic Fields at Work (CEMFAW) 2016 Regulations (Ref. 14.25). There are therefore no likely significant effects from EMI and no further assessment is required.</p>
4.10.3	Planning Inspectorate	Health and Community	<p>The Inspectorate understands from these paragraphs of the Scoping Report that these matters will be assessed in and mitigated for through the relevant chapters of the ES; given in the Scoping Report as Chapter 11 Soils and Geology, Chapter 12 Water Resources, and Chapter 20 Major Accidents and Disasters, as well as the proposed Flood Risk Assessment, and are therefore proposed to be scoped out of the Health and Community aspect chapter of the ES.</p> <p>It is noted that Chapter 12 Water Resources of the Scoping Report does not contain any reference to assessment of effects on health, in particular any likely significant effects arising from water and groundwater contamination. The Inspectorate does note the reference to health in the Soils and Geology aspect chapter. The Inspectorate does not agree to scope these matters out and advises that the ES should assess any likely significant effects to health associated with water and groundwater contamination. If the Applicant chooses to assess these matters in another relevant aspect chapter it should be clearly referenced. The Inspectorate agrees to scope out health effects to receptors at the Main Application Site. However, the flood risk associated with Proposed Development outside of the Main Application Site is not clearly stated in the Scoping Report. Therefore, the Inspectorate does not agree to scope these matters out of the assessment and where significant effects are likely to occur they should be assessed in the ES. It is noted that Paragraph 20.4.4 of the Scoping Report states that the assessment will use baseline information from Chapter 15 to define the receptors and the vulnerability of the Proposed Development to Major Accidents and Disasters. Population and human health are identified as receptors in Chapter 20 of the Scoping Report. The Inspectorate agrees that this matter can be addressed as proposed and therefore scoped out of the Health and Community assessment. Nevertheless, the Inspectorate advises that the ES clearly crossreferences common information between the two aspect chapters.</p>	<p>The water resources assessment within <b>Chapter 20</b> Water Resources of the ES [TR020001/APP/5.01] includes an assessment of impacts of the Proposed Development on water quantity and quality against standards that are based on preventing impact to human health. The assessment concludes that during construction any potential impacts on groundwater and surface water quality will be mitigated through measures outlined in the CoCP (<b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]). During both construction and operation, it is assessed that there will be beneficial effects on both groundwater and surface water quality as result of the processing and treatment of the former landfill site and the addition of a capping layer that will close the pathway for contaminants into the underlying aquifer.</p> <p>Flood risk outside of the Main Application Site (as defined in <b>Chapter 2</b> of the ES [TR020001/APP/5.01]) is considered in <b>Chapter 20</b> Water Resources [TR020001/APP/5.01] and the Flood Risk Assessment (FRA) provided as <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]. The FRA concludes that it has not identified any flood risk consideration related to the Proposed Development at the Main Application Site or the Off-site works, in any of the three assessment phases that result in an impact that would result in a significant effect, when the normal standards of design (1% AEP + CC) are applied.</p>
4.10.4	Planning Inspectorate	Health and Community	<p>The Inspectorate accepts that economic impacts on business owners will be assessed in the relevant chapters of the ES, given in the Scoping Report as Chapter 14 Economics and Employment and Chapter 16 Agricultural Land Quality and Farming Circumstances. As a result, the Inspectorate agrees to scope these matters out of the Health and Community assessment.</p>	<p>Economic impacts on business owners will be assessed in the relevant chapters of the ES - <b>Chapter 11</b> Economics and Employment and <b>Chapter 6</b> Agricultural Land Quality and Farm Holdings of the ES [TR020001/APP/5.01]. These matters are therefore scoped out of the Health and Community assessment.</p>

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.10.5	Planning Inspectorate	Health and Community	The Inspectorate welcomes the description of the immediate and wider study areas which will be applied to the health assessment and community assessment. It is not explicitly stated in the Scoping Report but the Inspectorate would expect the study area to reflect the change in ATMs where this is relevant. The ES should also define the relevant rural communities affected and include figures to clearly depict key features discussed in the assessment.	The study area for the health and community assessment is based on the spatial distribution of the environmental and economic impacts of the Proposed Development and the location of sensitive receptors, as described in <b>Section 13.3.5 of Chapter 13</b> of the ES [TR020001/APP/5.01]. The local neighbourhood areas which comprise the study area are shown on <b>Figure 13.1 Health and Community Study Areas</b> of the ES [TR020001/APP/5.03].
4.10.6	Planning Inspectorate	Health and Community	The Inspectorate notes the information sources listed in the Scoping Report and advises that the ES provides an explanation of the specific data to be gathered from these sources. It is not clear from the Scoping Report how mental health indicators will be determined from these sources, and the Inspectorate advises that both mental and physical health effects should be assessed in the ES.	Baseline conditions for health and community are provided in <b>Section 13.7 of Chapter 13</b> of the ES [TR020001/APP/5.01] and includes references which link the indicators to information sources. Mental health indicators have been obtained from the Mental Health and Wellbeing JSNA and Public Health England Local Authority Health Profile for the local and wider study area as indicated in <b>Section 13.7</b> . Both, mental and physical health effects are assessed in <b>Section 13.9</b> and <b>Section 13.11</b> .
4.10.7	Planning Inspectorate	Health and Community	While it is understood from this paragraph that the ES will identify community resources within the Study Area only if they may be affected by the Proposed Development, it will be necessary for the ES to provide an explanation of how the baseline has been established and therefore it should explain what possible effects have been considered when identifying community resources.	The approach to defining the community baseline is described in <b>Section 13.5 of Chapter 13</b> of the ES [TR020001/APP/5.01]. Using the information sources described in <b>Section 13.5</b> , all community resources in the Study Area were identified. The matters listed in <b>Section 13.3</b> under 'Matters scoped in' explains the possible effects which have been considered as part of the community assessment. These possible effects were used to refine the community baseline.
4.10.8	Planning Inspectorate	Health and Community	With regard to the quality surveys to be undertaken, it should be clear in the ES how the locations/sites to be surveyed have been chosen, including how consultation has informed the decision. The data for the assessment, for example the attribute table referred to in Paragraph 15.4.10, should be provided in the ES.	The methodology and results of the open space surveys are included in <b>Appendix 13.1 and 13.2</b> of the ES [TR020001/APP/5.02]. The methodology was shared with Luton Borough Council ahead of the first surveys taking place in Spring 2019. The number of visits were agreed, and the survey hours were extended to account for additional morning and evening users.
4.10.9	Planning Inspectorate	Health and Community	The ES should explain how future changes to the profile of the affected communities and wider relevant policy has been considered within the assessment. Any forecasts used must be explained and the methods used justified. The Applicant should make effort to verify the information used with relevant consultation bodies.	The approach to defining future baseline is described in <b>Section 5.4 of Chapter 5</b> Approach to the Assessment of the ES [TR020001/APP/5.01]. The future baseline considered for health and community is described in <b>Section 13.7 of Chapter 13</b> of the ES [TR020001/APP/5.01]. The baseline was verified through engagement with Luton Borough Council, Public Health England and through a community workshop with various community groups, as discussed in <b>Section 13.4</b> .
4.10.10	Planning Inspectorate	Health and Community	The Inspectorate welcomes this section and would expect to see corresponding sections in the ES explaining how the other environmental aspect assessments have informed the assessment of health and community effects. For example, the Scoping Report does not directly relate landscape or visual effects to health, and the ES should provide an explanation of the relationship identified. The Inspectorate considers that elements of the Cultural Heritage assessment and assessment of Major Accidents and Disasters will also be relevant to the assessment of wellbeing and health. The ES should provide explanation and justification for the basis of the assessment and the Applicant should seek to agree with consultation bodies the approach taken.	No elements of the Cultural Heritage assessment are considered relevant to health and wellbeing as the type of assets identified by the cultural heritage assessment ( <b>Chapter 10</b> of the ES [TR020001/APP/5.01]) do not have the ability to influence health outcomes. Elements of the cultural heritage assessment may be relevant to the community assessment where they constitute a community resource, for example, a church.  Major Accidents and Disasters is scoped out of the health assessment. Health effects associated with major accidents and disasters, such as air traffic accidents or major pollution incidents, are assessed in <b>Chapter 15 Major Accidents and Disasters</b> of the ES [TR020001/APP/5.01]. This is a risk-based assessment which considers the potential consequences of events, which have a low probability of occurring but potentially major consequences. In contrast, the health assessment identifies the likely health and wellbeing effects resulting from the exposure of the population to impacts on health determinants that are predicted to result from the Proposed Development. There is no available method for assessing the potential health outcomes of a major accident or disaster which, while potentially wide-ranging and severe, are unlikely to occur.  The scope and methodology for the assessment has been discussed and agreed with key stakeholders.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.10.11	Planning Inspectorate	Health and Community	The Inspectorate acknowledges the information provided in the Scoping Report about the factors which will be considered when determining the magnitude of impacts and sensitivity of population (health effects) and receptor (community effects); however, Paragraph 15.5.10 refers to these judgements being based on 'defined assessment criteria'. These criteria are not presented in the Scoping Report and the ES should provide this information.	The assessment criteria and guidance used to determine the magnitude of impact has been applied using professional judgement and is provided in <b>Section 13.5</b> and <b>Table 13.7</b> of <b>Chapter 13</b> of the ES [TR020001/APP/5.01]. Further details can be seen in <b>Appendix 13.4</b> Methodology for Health and Community Assessment of the ES [TR020001/APP/5.02].
4.10.12	Planning Inspectorate	Health and Community	The Scoping Report states that as a 'general rule' major and moderate effects will be considered significant. The ES should clearly define significant effects and any deviation from the defined method in the ES should be justified.	Significant effects are defined in Section 6.2, and the methodology for the assessment of effects for the health and community assessment is provided in Section 6.6, of Appendix 13.4 in Volume 3 of the ES.
4.10.13	Planning Inspectorate	Health and Community	The Table sets out the potential effects of the Proposed Development relevant to each Activity/Stage. However, these are sometimes conflated with the impacts set out in the preceding paragraphs, and some impacts are not represented in the Table at all, for example 'permanent loss or gain of community facilities due to construction'. The ES must clearly set out the anticipated effects of the Proposed Development having regard to all impacts identified and where significant effects are likely to occur.	The assessment is included in <b>Section 13.9</b> of <b>Chapter 13</b> of the ES [TR020001/APP/5.01]. Residual effects observed after mitigation are presented in <b>Section 13.11</b> . The summary of the preliminary assessment includes all identified impacts and is presented in <b>Section 13.14</b> .
Appendix 2	Public Health England	Health and Community	<p>Please note that we have replied to earlier consultations as listed below and this response should be read in conjunction with that earlier correspondence:</p> <p>Non Statutory Pre-Consultation: 31st August 2018</p> <p>PHE exists to protect and improve the nation's health and wellbeing, and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications. The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.</p> <p>This project sits within the remit of the draft Airports National Policy Statement (NPS), which specifically refers to the need to assess the likely significant effects of the project on health in Section 4 (paragraphs 4.66–4.69). The NPS indicates that airport infrastructure development proposals can have both beneficial and adverse impacts on health (para 4.66) and that the scale of development may have indirect impacts on health through a range of determinants (para 4.67). It also notes that more than one development may affect people simultaneously; as such, cumulative impacts on health should be given due consideration (para 4.69).</p>	<p>The health assessment methodology is based on the 'wider determinants of health' model (Dahlgren and Whitehead model) and will take into account cumulative effects.</p> <p>The health assessment methodology is aligned with guidance by the Institute of Environmental Management and Assessment (IEMA) and International Association of Impact Assessment (IAIA). See Guidance in <b>Table 13.4</b> of <b>Chapter 13</b> of the ES [TR020001/APP/5.01].</p>
Appendix 2	Public Health England	Health and Community	We are generally satisfied with the proposed methodology. We would expect to see that the detailed quantitative and cumulative assessments proposed are undertaken and provided in the final Environmental Statement (ES).	The outcomes of the detailed quantitative and cumulative assessments proposed in the methodology have been provided in ES <b>Chapter 13</b> [TR020001/APP/5.01].

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Appendix 2	Public Health England	Health and Community	At this stage of the consultation, there is a level of uncertainty about the overall scope of the development. In light of this, further consideration may be needed on the intention to screen out certain aspects from further assessment. The complex nature of the proposed project and the associated development will require careful consideration of all the combined elements. Specific elements such as air quality or noise should not be considered in isolation, to ensure that any mitigation measures proposed for one aspect do not cause adverse impacts or unintended	The combined effects of mitigation measures proposed by the relevant topics (i.e. air quality, noise and vibration, traffic and transport, landscape and visual amenity, and economics and employment) have been considered in the ES.																
Appendix 2	Public Health England	Health and Community	Health and Wellbeing This section of PHE’s scoping response, identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. The four themes are: - Access - Traffic and Transport - Socioeconomic - Land Use	The themes suggested by PHE have been assessed in the Health and Community Chapter, as follows: - Access - considered in 'Access to services and facilities' and 'Social capital' (isolation) - Traffic and Transport - considered in 'Access to services and facilities', 'Social capital' (isolation), and 'Neighbourhood quality (environmental impacts of traffic). - Socioeconomic - considered under 'Employment and training' and 'Social capital'. - Land Use - changes in land use will be considered in the appropriate section of the Health and Community assessment - for example the loss of change of use of parts of Wigmore Park will be assessed under 'Open space, recreation and physical activity'.																
Appendix 2	Public Health England	Health and Community	The local community will experience impacts from a range of factors due to this and other local developments over an extended period. The range of impacts over such a long period may result in minor effects gaining increased significance to local communities and the vulnerable population within. Recommendation The PEIR should report effects at community level in order to assist the identification of the overall potential effects across a range of impacts. These community level reports will also aid local communities to engage with consultations by providing relevant and accessible information.	Community level effects have been reported in <b>Chapter 13</b> of the ES [TR020001/APP/5.01].																
Appendix 2	Public Health England	Health and Community	The scoping report does not identify any aspects to be scoped out of the assessment for population and human health. The list of wider determinants to be scoped into the ES, by the applicant, are very broad descriptions and each will contain an important range of potential impacts on health and wellbeing. Table 1 lists the wider determinants, as a minimum, that should be scoped into an assessment of effects on population and human health under the broad descriptions identified within the scoping report. Should the applicant wish to scope out any of these determinants the PEIR must provide adequate justification in accordance with the Planning Inspectorate Advice Note Seven (Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements). <table border="1"> <thead> <tr> <th colspan="4">Health and wellbeing themes</th> </tr> <tr> <th>Access</th> <th>Traffic and Transport</th> <th>Socioeconomic</th> <th>Land Use</th> </tr> </thead> <tbody> <tr> <td colspan="4">Wider determinants of health and wellbeing</td> </tr> <tr> <td>- Access to local public and key services and facilities - Access to good-quality affordable housing - Access to healthy affordable food - Access to the natural environment - Access to the natural environment within the urban environment - Access to leisure, recreation and physical activity opportunities within the urban and natural environments</td> <td>- Accessibility - Access to public transport - Opportunities for access by cycling and walking - Links between communities - Community severance - Connections to services, facilities and leisure opportunities</td> <td>- Employment opportunities including training opportunities - Local business activity - Regeneration - Tourism and leisure industries - Community social cohesion and access to social networks - Community engagement</td> <td>- Land use in urban and rural settings - Quality of urban and natural environments</td> </tr> </tbody> </table>	Health and wellbeing themes				Access	Traffic and Transport	Socioeconomic	Land Use	Wider determinants of health and wellbeing				- Access to local public and key services and facilities - Access to good-quality affordable housing - Access to healthy affordable food - Access to the natural environment - Access to the natural environment within the urban environment - Access to leisure, recreation and physical activity opportunities within the urban and natural environments	- Accessibility - Access to public transport - Opportunities for access by cycling and walking - Links between communities - Community severance - Connections to services, facilities and leisure opportunities	- Employment opportunities including training opportunities - Local business activity - Regeneration - Tourism and leisure industries - Community social cohesion and access to social networks - Community engagement	- Land use in urban and rural settings - Quality of urban and natural environments	Health determinants scoped out of the assessment are described in <b>Section 13.3</b> of <b>Chapter 13</b> of the ES [TR020001/APP/5.01].  The ES describes how the determinants listed in Table 1 have been assessed, and provide justification for any determinants that are scoped out.  Broadly, the determinants suggested by Public Health England (PHE) will be assessed in the Health and Community Chapter ( <b>Chapter 13</b> of the ES [TR020001/APP/5.01]), as follows: - Access - considered in 'Access to services and facilities' and 'Social capital' (isolation) - Traffic and Transport - considered in 'Access to services and facilities', 'Social capital' (isolation), and 'Neighbourhood quality (environmental impacts of traffic). - Socioeconomic - considered under 'Employment and training' and 'Social capital'. - Land Use - changes in land use will be considered in the appropriate section of the health assessment - for example the loss of change of use of parts of Wigmore Park will be assessed under 'Open space, recreation and physical activity'.
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ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Public Health England	Health and Community	<p>The scoping report does not define health but does make reference to many wider determinants and the inclusion of mental health. It is useful to be clear and provide a definition of health. Although the scoping report mentions health and a mental health assessment it provides no further detail. It is important that mental health has parity of esteem with physical health and wellbeing. Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. A scheme of this scale and nature has impacts on the over-arching protective factors, which are:</p> <ul style="list-style-type: none"> <li>• Enhancing control</li> <li>• Increasing resilience and community assets</li> <li>• Facilitating participation and promoting inclusion.</li> </ul> <p>Recommendation We would recommend the use of the broad definition of health proposed by the WHO and we welcome a specific reference to mental health. There should be parity between mental and physical health, and any assessment of health impact should include the appreciation of both. A systematic approach to the assessment of the effects on mental health, including suicide, is required. The PEIR should reference the methodology used to complete assessments for the effects on mental health and wellbeing. The Mental Well-being Impact Assessment (MWIA), is mentioned within the report and could be used as a methodology.</p>	<p>Health will be defined according to the WHO definition (1948) ("<i>a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity</i>") and the assessment will give equal status to physical and mental health. The health assessment methodology has been described in detail in <b>Chapter 13</b> of the ES [TR020001/APP/5.01].</p> <p>The assessment will be qualitative in nature (with the exception of quantitative assessment of health effects arising from changes in total population exposure to air noise and air quality). As such, the assessment will not include a risk assessment of specific outcomes such as suicide. Rather, the potential for the mental health and wellbeing of the population to be adversely or beneficially affected by changes to health determinants will be evaluated, with reference to evidence.</p>
Appendix 2	Public Health England	Health and Community	<p>The scoping report proposes to scope out health effects from flooding, due to the risk of flooding being deemed as not significant. We are content with this approach but it should be scoped back in should the flooding risk be increased. Flooding can have a significant effect on health, in particular mental health and wellbeing.</p> <p>Recommendation Should the risk of flooding change during the course of the ES development health effects must be scoped in and assessed.</p>	<p>The risk of flooding has been monitored during the production of the ES. Health effects from flooding remained scoped out of the health assessment. The flood risk has been discussed in the Flood Risk Assessment (provided as <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]).</p>
Appendix 2	Public Health England	Health and Community	<p>The Scoping Report identifies the potential for temporary and permanent land take in order to achieve the construction and operational phase. Loss of homes may attract compensation, but existing compensation schemes only consider property owners. Compensation schemes may not address the impact on the loss of homes on the tenants of these properties, who may often have poor health or be considered vulnerable.</p> <p>The presence of significant numbers of workers could foreseeably have an impact on the local availability of affordable housing, particularly that of short term tenancies, for certain communities.</p> <p>Recommendation The PEIR should identify the number of workers and whether these are likely to be from within the existing population or new to area. Demand for temporary accommodation by the construction work force should be identified and an assessment made regarding the impact on local housing supply and affordability, particularly in relation to homelessness provision of short term housing supply. Given the number of other large developments the cumulative impact on housing provision should be assessed. The impact of the development on the tenants of social or private rented sector housing should be considered within the PEIR where appropriate, which should identify the scale and nature of impact and address and specific mitigation measures.</p>	<p><b>Chapter 11</b> Employment and Economics of the ES [TR020001/APP/5.01] assesses the number of construction workers likely to be seeking housing in the local housing market. It then assesses the potential impact of that on the local private rental sector. The Health and Community assessment looks at the potential effect of that impact on the health and wellbeing of the local population with reference to existing levels of housing supply and homelessness and the potential disproportionate effects on more vulnerable groups.</p>



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Appendix 2	Public Health England	Health and Community	<p>PHE expects an assessment to include consideration of the need for monitoring. It may be appropriate to undertake monitoring where:</p> <ul style="list-style-type: none"> <li>- Critical assumptions have been made.</li> <li>- There is uncertainty about whether negative impacts are likely to occur as it may be appropriate to include planned monitoring measures to track whether impacts do occur.</li> <li>- There is uncertainty about the potential success of mitigation measures.</li> <li>- It is necessary to track the nature of the impact and provide useful and timely feedback that would allow action to be taken.</li> </ul> <p>Recommendation - The need for monitoring should be assessed and reported within the PEIR.</p>	<p>Monitoring of health outcomes is not proposed due to practical difficulties in obtaining accurate health data for the study population and attributing any changes in observed health outcomes to the Proposed Development. Accurately identifying changes in the health status of a population resulting from a specific intervention requires a large-scale study that is not proportionate in the context of an EIA. However, precursors to health effects will be monitored, including air quality, noise, local employment and apprenticeships.</p>
Appendix 2	Public Health England	Health and Community	<p>PHE expects development proposals to take into consideration the evidence which suggests that quiet areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [7-9]. Research from the Netherlands suggests that people living in noisy areas appear to have a greater need for areas offering quiet than people not exposed to noise at home [7].</p> <p>Noise insulation schemes do not protect amenity spaces such as private gardens or community green spaces from increased noise exposure. It is acknowledged that the proposed development will result in the loss of open space (c.f. 3.4.10). PHE expects consideration to be given to the importance of green spaces as well as opportunities to create new tranquil public spaces which are easily accessible to those communities exposed to increased noise from the scheme. These spaces should be of a high design quality and have a sustainable long-term management strategy in place.</p>	<p>Tranquillity has not been assessed as part of the health and community assessment, but an assessment of tranquillity in accordance with NPPF paragraph 185b has been undertaken as part of the Noise and Vibration Assessment within <b>Chapter 16</b> of the ES [TR020001/APP/5.01]. <b>Chapter 14</b> Landscape and Visual [TR020001/APP/5.01] also presents an assessment on tranquillity for landscape and visual amenity (including as relevant tranquillity effects at the Chilterns Area of Outstanding Natural Beauty).</p>
Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>PHE acknowledges that for aviation noise, noise modelling may be based on indicative, rather than finalised flightpaths. PHE expects the applicant to agree a strategy with relevant stakeholders to address this issue, and additional assessment may be necessary during the finalisation of flightpaths if consent is granted, to assess and mitigate the full scale and distribution of localised impacts.</p>	<p>As the airspace change process is still ongoing and will provide an assessment of potential noise impacts as part of the separate Airspace Change process, an analysis of noise effects due to airspace change has not been undertaken for the Proposed Development. However, a sensitivity test has been undertaken to demonstrate that proposed future airspace changes are expected to be accommodated within the proposed Noise Envelope. The sensitivity test is presented in <b>Section 12 of Appendix 16.1 Noise and Vibration Methodology and Data of the ES [TR020001/APP/5.02]</b> and summarised in Section 16.9 of <b>Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]</b>.</p>
Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>PHE welcomes the convening of the Noise Working Group and Noise Envelope Design Group - including representatives from local authorities and local communities - and the applicant's commitment to consult the Independent Commission on Civil Aviation Noise (ICCAN) (c.f. Scoping Report 10.3). PHE encourages the scheme promoter to use effective methods to communicate changes in the acoustic environment as a result of the proposed development to local communities. For example, immersive sound demonstrations can help make noise and visual impacts intuitive to understand and accessible to a wider demographic, and have been used in major road and rail infrastructure projects such as High Speed 2 (HS2) and the planned upgrades to the A303. PHE expects relevant sections of the ES to explain how stakeholder responses in relation to noise have influenced the development of the proposal, including any mitigation measures. In addition, the applicant should propose a suitable strategy to disseminate the findings of the Environmental Impact Assessment (EIA) regarding the effects of noise on health to stakeholders, including communities which may experience a change in their local noise environment as a result of the scheme.</p>	<p>Information on noise was shared during the 2022 statutory consultation using plans and text explanations, specialists were also available to answer questions. Stakeholder engagement in relation to noise and vibration and evolution of the project design has been outlined in <b>Chapter 16 Noise and Vibration</b> and <b>Chapter 3 Alternatives and Design Evolution</b> respectively [TR020001/APP/5.01].</p>

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Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>PHE expects proper consideration to be given to the potential effects on human health due to changes in environmental noise arising from construction and operational phases of the proposed development. PHE notes the applicant's commitment to quantify noise impacts on health in terms of Disability Adjusted Life Years (DALYs) following the methodology laid out by the IGCBN. This is expected to include the specific outcomes of annoyance, sleep disturbance, acute myocardial infarction, stroke and dementia (c.f. 15.5.22). PHE recommends that the number of people affected is also reported.</p> <p>PHE recommends that the definition of significance of noise impacts is discussed and agreed with relevant stakeholders, including the Noise Working Group, Noise Envelope Design Group, and ICCAN. PHE recommends that disagreement amongst stakeholders on the methodology of defining significance is acknowledged, and could be used to inform additional sensitivity analyses.</p>	<p>Disability Adjusted Life Years (DALYs) have been calculated following the methodology laid out by the IGCBN. This includes the specific outcomes of annoyance, sleep disturbance, acute myocardial infarction, stroke and dementia. The definition of significance of noise impacts has been widely consulted on and has been presented to the Noise Working Group, Noise Envelope Design Group (of which ICCAN were an invited member before they disbanded). This engagement has informed additional sensitivity analyses, such as an assessment against a theoretical 2019 baseline that was compliant with the currently consented noise limits.</p>
Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>In paragraph 10.2.35, the applicant states that "the new World Health Organization Guidelines are currently not considered directly applicable to the assessment". Two reasons for this are given: a recommendation in the WHO Environmental Noise Guidelines 2018 (ENG) to use data derived in a local context where possible, and the availability of the UK-specific evidence in the Civil Aviation Authorities Survey of Noise Attitudes (SoNA2014). However the applicant should note that the statement in the ENG, and published data from SONA are only relevant to annoyance. PHE recommends that the applicant considers the evidence in the ENG (and the accompanying systematic reviews) when assessing other health outcomes, including sleep disturbance and cardiovascular health outcomes.</p>	<p>Although the dose-response relationship in the new WHO Guidelines is not currently adopted in UK policy, sensitivity testing using the relevant updated relationships in the WHO guidelines has been undertaken and is presented in <b>Chapter 13</b> Health and Community of this ES [TR020001/APP/5.01]. Additional quantitative assessments are focussed on those health outcomes on which air noise has the most effect, these being annoyance and self-reported sleep disturbance. Although a quantitative assessment of this health outcome has not been undertaken, the evidence relating to aircraft noise and Ischemic Heart Disease presented in WHO 2018 has been noted. As a result, it is considered that the health impacts of IHD resulting from aircraft noise would be similar in magnitude to those reported for other cardiovascular outcomes, such as Acute Myocardial Infarction.</p>
Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>In paragraph 10.5.16 the applicant states that the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adversed Effect Level (SOAEL) have been defined based on the WHO Guidelines for Community Noise and WHO Night Noise Guidelines. PHE recommends that the applicant also considers the WHO ENG, which is underpinned by more recent, and better quality scientific evidence. For example, the applicant states that the daytime SOAEL of 63dB LAeq,16hr is based on the onset of cardiovascular health effects. The WHO ENG concluded that a relevant risk increase for the incidence of ischaemic heart disease from exposure to aircraft noise occurs at 53dB Lden. A recent nationwide scale cohort study from Switzerland found that risks of cardiovascular mortality due to transportation noise started to increase from as low as 40dB Lden [10].</p> <p>The applicant may wish to carry out sensitivity analyses using different exposure response relationships set out in publications by the WHO [2, 3] as well as the growing evidence relating to a "change effect" for any newly overflowed communities [4, 5].</p>	<p>Although the dose-response relationship in the new WHO Guidelines is not currently adopted in UK policy, sensitivity testing using the relevant updated relationships in the WHO guidelines has been undertaken as recommended and is presented in <b>Chapter 13</b> Health and Community of this ES [TR020001/APP/5.01]. There are no newly overflowed communities as a result of the Proposed Development.</p>

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Appendix 2	Public Health England	Health and Community - Noise and Vibration	<p>Regarding sleep disturbance, PHE recommends that the assessment is carried out both in terms of number of noise induced awakenings<sup>1</sup> and the number of people highly sleep disturbed [11]. For the former it may be helpful to carry out separate assessments for windows open and windows closed scenarios, in order to better understand any seasonal variation in impacts.</p> <p>PHE recommends that overall assessments of significance are based on impacts on health and quality of life, and not around noise exposure per se (in line with the Noise Policy Statement for England, NPSE). Furthermore, PHE expects significance assessments to reflect both the severity of the health outcome and the size of the population affected. Other considerations that can be taken into account are:</p> <ul style="list-style-type: none"> <li>i. The existing noise exposure of affected communities – in particular any designated Noise Important Areas in proximity to the scheme. These are areas with the highest levels of noise exposure at a national level, and require very careful consideration in terms of opportunities for improvement of health and quality of life through noise management;</li> <li>ii. In-combination and cumulative exposure to other environmental risk factors, including other sources of noise and air pollution; and</li> <li>iii. Local health needs, sensitivities and objectives.</li> </ul>	<p>An assessment of subjective sleep disturbance (based on relationships predicting the number of people highly sleep disturbed) and objective sleep disturbance (based on the number of additional noise induced awakenings) has been undertaken and is presented in <b>Chapter 13</b> Health and Community of this ES [TR020001/APP/5.01]. Noise Important Areas are considered as part of the assessment in <b>Chapter 16</b> Noise and Vibration of this ES [TR020001/APP/5.01]. In combination and cumulative effects are presented in <b>Chapter 21</b> of the ES [TR020001/APP/5.01].</p>
Appendix 2	Public Health England	Health and Community Surface Access Traffic and Transportation	<p>The scoping report identifies how non-motorised user (NMU) will be impacted through the loss or change in formal Public Rights of Way (PRoW), open space and the existing road network. Active travel forms an important part in helping to promote healthy weight environments and as such it is important that any changes have a positive long term impact where possible. Changes to NMU routes have the potential to impact on usage, create displacement to other routes and potentially lead to increased road traffic collisions.</p> <p>A scheme of this scale and nature can also provide opportunities to enhance the existing infrastructure that supports active travel and we expect the proposal to contribute to improved provision for active travel and physical activity.</p> <p>The scoping report makes inconsistent reference to cycling within the assessment scope.</p> <p>It is important to ensure that any impact on tranquillity in open spaces is considered.</p> <p><b>Recommendations</b></p> <p>The overall risk to NMU and impact on active travel should be considered on a case-by-case basis, taking into account, the number and type of users and the effect that the temporary traffic management system will have on their journey and safety.</p> <p>Any traffic counts and assessment should also, as far as reasonably practicable, identify informal routes used by NMU or potential routes used due to displacement.</p> <p>The final ES should identify the temporary traffic management system design principles or standards that will be maintained with specific reference to NMU. This may be incorporated within the Code of Construction Practice (CoCP).</p> <p>The scheme should continue to identify any additional opportunities to contribute to improved infrastructure provision for active travel and physical activity.</p>	<p>Impacts on NMUs during construction and operation has been assessed in the Traffic and Transport assessment. Mitigation, including traffic management systems and measures included in the CoCP (provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02], have been described in the Traffic and Transport assessment. The health assessment identifies the residual impacts on health determinants (such as physical activity, leisure and access to green space), following the incorporation of these mitigation measures, and assesses the beneficial and adverse health effects arising from this. Further mitigation measures have been included if and where relevant.</p>

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Appendix 2	Public Health England	Health and Community	<p>An approach to the identification of vulnerable populations has been provided but does not make links to the list of protected characteristics within an Equality Impact Assessment (EqIA). The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics. The ES and any EqIA should not be completely separated.</p> <p>Recommendation The assessments and findings of the ES and any EqIA should be crossed reference between the two documents, particularly to ensure the comprehensive assessment of potential impacts for health and inequalities and where resulting mitigation measures are mutually supportive.</p>	<p>The health assessment identifies vulnerable groups that are more likely to experience health effects as a result of their prevalence within the population, increased likelihood of being exposed to impacts and/or specific sensitivity to health effects. This includes consideration of social and health inequalities.</p> <p><b>Chapter 13</b> of the ES [TR020001/APP/5.01] explains the relationship between the Health and Community assessment and the EqIA, and describes the approach to integrated working between the topics.</p> <p>The EqIA has been presented as a separate report ([TR020001/APP/7.12]). The ES is required to be a stand-alone document and cannot rely on information cross-referenced to the EqIA. Any differential impacts on Protected Characteristic Groups that are assessed as significant in terms of health have been reported in the health assessment. The EqIA references information within the ES where relevant, including the Health and Community Chapter (<b>Chapter 13</b> of the ES [TR020001/APP/5.01]).</p>
Appendix 2	Public Health England	Health and Community Noise and Vibration	<p>PHE expects decisions about noise mitigation measures to be underpinned by good quality evidence, in particular whether mitigation measures are proven to reduce adverse impacts on health and quality of life. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness during construction and operation of the proposed development. With regards to operational noise from road and air traffic, PHE expects to see consideration of a broad range of measures, such as fleet management, flight-path design, respite, traffic management, low-noise road surfaces, acoustic barriers, quiet facades and noise insulation schemes. PHE expects any proposed noise insulation schemes to take a holistic approach which achieves a healthy indoor environment, taking into consideration noise, ventilation, overheating risk, indoor air quality and occupants' desire to have windows open. It should be noted that there is at present insufficient good quality evidence as to whether insulation schemes are effective at reducing annoyance and self-reported sleep disturbance [6], and initiatives to evaluate the effectiveness of noise insulation on improved physical and psychological health outcomes are strongly encouraged.</p> <p>PHE notes that a Construction Environmental Management Plan (CEMP) will be developed and implemented by the contractor, in part to mitigate the adverse impact of construction noise (c.f. 3.6.8). PHE recommends that the CEMP includes a detailed programme of construction which highlights the times and durations of particularly noisy works and proposed noise mitigation measures. PHE recommends that the applicant develops a strategy for actively communicating key elements of the CEMP to local communities.</p>	<p>The impact of noise from the Proposed Development has been assessed and all reasonably practicable measures have been explored to reduce noise pollution, including a Noise Insulation Scheme, a Noise Envelope, low noise surfacing and noise barriers. Flight-path design and respite are subject to the Civil Aviation Authority's Airspace Change Process and are not part of the Proposed Development. Further details can be found in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. Information about the Noise Insulation Schemes can be found in the Draft Compensation Policies, Measures and Community First [TR020001/APP/7.11]. Mitigation measures secured through the CoCP, including a commitment to monitor noise (provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) are considered to represent appropriate best practicable means and will ensure that adverse effects from construction noise is minimised at all times throughout the construction programme.</p>
Appendix 2	Welwyn Hatfield Borough Council	Health and Community / Air Quality	<p>Air quality concerns are similar to those associated with noise, due to the distance from the Welwyn Hatfield district boundary. Information we would like to see, is regarding the impact on traffic for the major routes, these being the A414, A1M etc that come into the borough.</p>	<p>Impacts on traffic flows across the wider road network have been reported in the Traffic and Transport section of <b>Chapter 13</b> of the ES [TR020001/APP/5.01].</p> <p>The ES assesses any air quality impacts where significant effects are likely to arise during both construction and operation of the Proposed Development.</p>

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Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Health and Community	<p>We are particularly concerned that significant numbers of rural population living in the north of Buckinghamshire who are relatively close to Luton Airport are excluded from the EIA assessment. Even though the impact of a single development may not have significantly high impacts on this population, the cumulative impacts of number of major current/future projects could have a major impact on rural communities.</p> <p>We consider the first principle when considering any changes to air traffic must be to minimise the number of people newly overflown. Peer reviewed research and that commissioned by Heathrow Airport Limited (HAL) clearly demonstrates that it is those newly overflown communities who are disproportionately affected through the introduction of aircraft noise. Residents of northern Buckinghamshire in the more rural areas which were relatively tranquil less than 5 years ago, are negatively affected by the changes previously introduced by Luton Airport to fly more frequently across rural areas. These Bucks residents now suffer loss of sleep, consequent mental and physical health impacts and disruption to home and working lives. Rural areas including the nationally designated Chilterns AONB as well as parks and recreational areas such as Ivinghoe Beacon provide a quiet sanctuary for local residents, people from nearby towns and provide tourism and recreation opportunities because they are tranquil.</p> <p>We are concerned that this omission may cause anxiety for communities in north Buckinghamshire, whom may be concerned about aircraft noise from changes in air traffic movement (arising from a proposed doubling of flights) and potential changes in the ground traffic due to this expansion. As set out above, we therefore recommend including study areas to incorporate the most affected Buckinghamshire communities. This will better identify probable effects on the health, arising from direct and indirect environmental, social and economic effects of the Proposed Development.</p>	<p>The study area for the health and community assessment is based on the spatial distribution of the environmental and economic impacts of the Proposed Development and the location of sensitive receptors, as described in <b>Section 13.3.5 of Chapter 13</b> of the ES [TR020001/APP/5.01].</p> <p>The Project is looking to expand the airport and would do so based on existing flight paths. Although airspace redesign is taking place concurrently with the Project, there is no requirement for airspace changes to allow the proposed expansion to go ahead. Consequently, the assessment of aircraft noise is undertaken using existing flight paths and there are no new communities overflows as a result of the Project.</p> <p>The study area for aircraft noise follows requirements set out in national policy has been defined considering guidance within Air Navigation Guidance, which states: “Below 4,000 feet, there is a strong likelihood that aircraft could create levels of noise exposure above the LOAELs identified above, which is reflected in the Altitude Based Priorities”. In addition, the daytime and night-time Lowest Observed Adverse Effect Level (LOAEL) air noise contours for the assessment scenarios have been referenced to define the study area. The LOAEL is defined in national policy as 51 dB LAeq,16h daytime and 45 dB LAeq,8h night-time. Noise levels below the LOAEL are defined in national policy as “Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response”.</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	<p>We support the topics covered in the SR. 3.3 We consider that the Topic Chapter on ‘Health and Community’ should be divided into two separate chapters dealing with ‘Health’ and ‘Community’ respectively. We consider that this will ensure a clear assessment of two discrete areas – the health of the population overall and groups within it and the impact on community infrastructure. We comment below in section 4.0 on some aspects of the chapter as presently proposed.</p>	<p>The effects on the health of the population overall and groups within it and the impact on community infrastructure will be assessed separately using appropriate health and community assessment techniques. These effects will be reported separately in order to make a clear distinction between health and community effects. The purpose of reporting these effects within a combined Health and Community Chapter is to make it easier for people to find the information about their community area in one place within the ES.</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	<p>4.94 All of the host authorities have a duty to ensure that the health and wellbeing of their residents are not adversely affected by Proposed Development. 4.95 The chapter seeks to cover both health and community resources although appears to focus largely on health issues as the more easily identifiable and quantifiable. As noted in Section 3.0 above we consider that two separate chapters should deal with these issues.</p>	<p>The effects on the health of the population overall and groups within it and the impact on community infrastructure will be assessed separately using appropriate health and community assessment techniques. These effects will be reported separately in order to make a clear distinction between health and community effects. The purpose of reporting these effects within a combined Health and Community Chapter is to make it easier for people to find the information about their community area in one place within the ES.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	The ES should consider the potential impact on open space in particular given the proposed impacts on Wigmore Valley Park and its proposed extension into North Hertfordshire. Through this chapter the ES should consider the impact of this proposal on accessibility, biodiversity, and public usage. This will require details of the proposals for the area of open space and the future management and funding arrangements.	Open spaces and recreational routes likely to be affected by the Proposed Development have been assessed as part of the health and community assessment in <b>Section 13.9 of Chapter 13</b> of the ES [TR020001/APP/5.01]. User count surveys have been undertaken along those routes likely to be directly affected by the development and at Wigmore Valley Park (WVP).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	The commitment to undertake a Health Impact Assessment is fully supported and in our view this is a key document for the EIA process. The HIA should be fully inclusive of the residents and communities in all four host authorities.	The HIA is fully inclusive of the residents and communities in all four host authorities.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	4.102 The following points are raised by way of clarification. 4.103 The 'Local Policy' subsection of 15.2 omits the Hertfordshire Health and Wellbeing Strategy <sup>4</sup> , and does not make reference to any Hertfordshire Joint Strategic Need Assessments.	The Hertfordshire Health and Wellbeing Strategy and the Hertfordshire Joint Strategic Needs Assessment has been referenced in the ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	The 'Guidance' subsection of 15.2 makes clear that because there is no statutory guidance for HIA, the approach will draw on best practice. We recommend that the Welsh Health Impact Assessment Unit's Health Impact Assessment: A Practical Guide is also referenced here <sup>6</sup> . This methodology has been used extensively in relation to transport planning, regeneration, land-use planning and industrial proposals; it may offer additional scope to compliment other methodologies that may lend themselves more towards other types of development.	The health assessment methodology draws on a range of guidance and best practice documents. The health assessment methodology is consistent with the Welsh Health Impact Assessment Unit's Guide and this document has been referenced in the ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community	The potential for mitigation during operation should be considered further beyond the three opportunities stated at para. 15.8.27. Mitigation is largely considered as a construction process issues. We consider that a long term strategy to mitigate/reduce/prevent negative impacts of expansion on public health is crucial.	Mitigation and enhancement measures have been considered for all stages of the proposed development, including operation.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	The study area and spatial scope of health pathways should be confirmed with the host authorities. Understanding the HIA study area and where its spatial boundary extends to is crucial. We are concerned that the assessment of health impact assessment will be restricted to wards around the airport. It is well known that pollutant PM can travel over great distances, dependent on weather conditions and therefore measuring at source or within a 15km area will not provide an accurate impact for this pollutant on public health. The study area suggested does not take into account the transient nature of PM dependent on wind conditions	The spatial scope of the health assessment has been defined by the geographic extent of impacts on health determinants. This will vary between health determinants and will not be limited to the wards around the airport. The health team has liaised with other specialists including air quality, noise, landscape and visual, and economics and employment, to ensure that the health assessment captures impacts on health determinants wherever they occur.  Air Quality: The air quality assessment study area has been clearly defined and justified in the ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in Section 7.5. The modelling scenarios are also provided. The dispersion modelling carried out does take into account the dispersion of pollution based on meteorological condition.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	Monitoring PM2.5 across the town and across County boundaries will be required to identify a baseline and to assess possible impact. It may be possible to request that NHS Digital re-models Public Health Outcomes Framework (PHOF) 3.01 for Luton and surrounding areas with expansion data to understand likely impact of pollutant PM2.5 on fraction of adult mortality.	An assessment of change in exposure predicted to occur as a result of the Proposed Development will be presented as part of the ES. 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.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	Data, evidence and intelligence needs should be communicated at the earliest opportunity in order to allow for appropriate engagement on this matter.	Consultation has been undertaken with the host authorities prior to submission of the PEIR and ES for appropriate engagement on Health and Community and Air Quality topics. Consultation will also continue post submission of the ES.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	Para. 15.5.14 mentions size of the 'exposed population' – increased traffic into area will increase pollutants including PM2.5 – it is unclear how the magnitude of impact will be assessed with the transient nature of this pollutant within 'exposed population area.'	The air quality assessment methodology and study area has been clearly defined and justified in <b>Sections 7.3 and 7.5 of Chapter 7</b> of the ES [TR020001/APP/5.01], following national and industry guidance.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	The approach in para. 15.5.18 and Table 15-2 suggests the current baseline is acceptable. PHOF 3.01 indicates a worsening fraction of adult mortality rate in Luton attributed to human-made particulate matter. A result of a 'minor' magnitude of impact may look positive but given the already 'high' baseline any increase is likely to significantly impact public health and impact public health further afield than the suggested 'exposed population' because of the transient nature of pollutant PM2.5. The methodology therefore needs to identify if the baseline is already of a public health concern prior to determining the magnitude of effect.	An assessment of change in exposure predicted to occur as a result of the Proposed Development will be presented as part of the ES. 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.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	Below is data identifying current pollution data PHOF 3.01 – even a minor rise in PM levels could increase mortality rates significantly. Mitigation proposals need to be considered and their effectiveness evidence based. (See figure - page 37 of the letter and page 173 of PDF )	Full details of the mitigation proposed can be found in the Outline Operational Air Quality Plan in <b>Appendix 7.5 [TR020001/APP/5.02]</b> . The measures described in the Green Controlled Growth document, also submitted as part of the application for development consent [TR020001/APP/7.08], provide an additional and supplemental mechanism through which the operation of the Proposed Development is monitored, independently reviewed, and measures taken should the environmental effects of the Proposed Development approach or exceed those predicted by the environmental assessment.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	We are unconvinced that at this stage the health effects from increased population exposure to air pollutants can be scoped out. Dealing with localised impacts through the AQA only is likely to conceal differential impacts on different groups in the population. Moreover, adopting this approach negates the potentially wider impacts of PM.	A quantitative assessment of air quality related health effects has been undertaken based on DEFRA guidance (Ricardo Energy & Environment (2019) Air Quality damage cost update 2019. Report for Defra) which provides exposure-response coefficients that can be applied to calculate changes in health outcomes at population level.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Air Quality	With reference to the approach of para. 15.7.2, the baseline of air quality should be considered, as set out above. EU and UK limits while providing a standard do not recognise that harms to health are possible at and below standard limits. Current baseline readings of air quality will give a better understanding of the magnitude and significance of effects. Again, the assumptions of air quality impacts ignore transient properties of PM.	An assessment of change in exposure predicted to occur as a result of the Proposed Development will be presented as part of the ES. 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.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and community Noise and Vibration	In respect of the impact of noise on health the specific noise criteria needs to be measured in order that the WebTAG analysis can take place.	The effects on health resulting from long-term exposure of a population to aircraft noise have been quantified using established exposure-response relationships for specific health outcomes published by Defra (the Department for the Environment, Food, and Rural Affairs) on behalf of the Interdepartmental Group on Costs and Benefits (Noise Subject Group) (IGCB(N)) in 2010 and 2014. These relationships, which cover the effects of aircraft noise on acute myocardial infarction (heart attacks), amenity (annoyance), stroke, dementia and sleep disturbance, underpin the monetary valuation of health impacts undertaken as part of Department for Transport's WebTAG appraisal. The noise modelling used to undertake this assessment has been validated using extensive measurements. Please refer to <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Socio-economics	The SR does not appear to consider the impact of the development on local housing markets either during the construction stage or during operation. Particularly during construction, the ES should consider to what extent the temporary influx of significant numbers of construction workers could affect the private rental market and whether mitigation in the form of, for example, greater efforts to use those already in the local labour market would be practicable. More broadly the ES should consider the effects during construction on the provision of public services, related to temporary employment generated during the construction phase of the Proposed Development. Whilst these might be temporary, their nature and duration and any likely significant effects and any mitigation that may be required should be considered. This is mentioned briefly in para. 15.6.3 but the ES should include a detailed consideration of this matter.]	The potential impacts of the scheme on the housing market will be considered as part of the economics and employment assessment, including the impact of the construction workforce on demand and affordability. This will include consideration of cumulative effects with other large developments.  If significant impacts on the housing market are identified, the effects on the health and wellbeing of the population will be assessed. Tenants of social or private rental sector housing will be identified as a vulnerable group in this assessment.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Health and Community Transport, Agriculture biodiversity and Landscape and visual	The impact on these facilities relocation is a significant concern to the host authorities. The Proposed Development should provide detail and certainty regarding future reconfiguration and impact on existing agricultural land, how acceptable and uncongested access/egress including parking and public transport will be achieved, future improvements to facilities and future management responsibility and funding (at no cost to the host authority). This will be a key embedded mitigation of the proposals, having an impact across a number of different topic areas including health, transport, biodiversity and landscape.	The health and community assessment considers the impact on residential communities, community and recreational facilities and open spaces as a result of the development. Where a community or recreational facility or an area of open space is impacted or lost, appropriate mitigation are detailed in the ES.



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<b>Landscape and Visual</b>				
4.13.1	Planning Inspectorate	Landscape and Visual	The Inspectorate notes from Table 18-3 that residents at home are defined as having a high susceptibility to change. The Inspectorate does not agree that the assessment of effects to private views from residential property can be scoped out of the assessment. Where access to private property is not available for the purposes of the assessment then professional judgement should be used to assess the potential effect to those visual receptors, and an appropriate statement to that effect made.	The LVIA takes into consideration effects on people within residential properties that are potentially susceptible to the type of change proposed. Professional judgement was used to assess the potential effect to those visual receptors. The visual receptors assessed in the LVIA were discussed and agreed with the LVIA Working Group (as defined in <b>Section 14.4</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01]).  A Non-EIA Residential Visual Amenity Appraisal is included as Appendix 14.8 of the ES [TR020001/APP/5.02].
4.13.2	Planning Inspectorate	Landscape and Visual	The landscape and visual impact of off-site highway works should be included within the scope of the assessment.	The landscape and visual impact of the 'Do Something' Off-site Highway Interventions has been considered within the assessment undertaken at <b>Section 14.9</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01].  A cumulative landscape and visual impact assessment (CLVIA) has been considered within Chapter 21 In-combination and Cumulative Effects of the ES [TR020001/APP/5.01].
4.13.3	Planning Inspectorate	Landscape and Visual	The third and fourth bullets refer to the retention of a ridgeline and trees to provide visual screening and the protection of ancient woodland as key considerations in selecting the current preferred option. The locations of these features should be made clear on suitably annotated figures and any reliance placed on this for the conclusions of the assessment of landscape and visual impacts should be adequately secured.	These features are described in <b>Section 14.7</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01] and are identified in <b>Figure 14.5</b> of the ES [TR020001/APP/5.03]. They are also shown as being retained within <b>Figures 14.9</b> and <b>14.10</b> of the ES [TR020001/APP/5.02].
4.13.4	Planning Inspectorate	Landscape and Visual	The Inspectorate notes the proposed submission of an assessment on the impact lighting. It is not clear from the Scoping Report where the lighting assessment will be located within the ES. The lighting assessment should be clearly signposted from the relevant aspect chapters in the ES and should include the assessment of impact to the Chilterns AONB and effects on dark night skies. Having regard to the intrinsic links between lighting and visual impacts it is logical that the assessment forms part of the Landscape and Visual chapter, but the Inspectorate expects that other aspect assessments are informed by the findings, including biodiversity and the settings of heritage assets.	A Light Obtrusion Assessment is provided as <b>Appendix 5.2</b> of the ES [TR020001/APP/5.02]. The assessment undertaken at <b>Section 14.9</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01] draws on its judgements when considering the susceptibility and value of landscape receptors, when considering the value of views experienced by visual receptors, and when determining the magnitude of impact on landscape and visual receptors.
4.13.5	Planning Inspectorate	Landscape and Visual	The boundary of the Chilterns AONB is the subject of a request for its extension, made by Chilterns Conservation Board to NE. The assessment in the ES should take into account the proposed designation and any significant effects that may occur.	There is no legal requirement to assess the effects on the proposed boundary extension to the AONB.  A sensitivity test of the proposed boundary extension to the AONB is included at <b>Appendix 14.9</b> of the ES [TR020001/APP/5.02], based on the 'search area' extents shown in the Chiltern Conservation Board application to Natural England.
4.13.6	Planning Inspectorate	Landscape and Visual	A 5km study area is proposed, which will be reviewed and confirmed as part of the landscape and visual impact assessment once the parameters for the Proposed Development have been further developed and a Zone of Theoretical Visibility (ZTV) has been prepared. As the parameters of the Proposed Development are not yet confirmed, and no ZTV is yet prepared, the review of the study area should not discount the possibility that the study area may need to be wider than 5km to assess relevant landscape and visual effects, including to the Chilterns AONB. The Applicant should make effort to agree the study area with relevant consultation bodies.	A ZTV of the Proposed Development is shown on <b>Figure 14.2</b> of the ES [TR020001/APP/5.03]. The ZTV has been generated using terrain data only and is therefore limited as a means of mapping visibility, as it does not take account of other landscape components which affect visibility such as buildings, woodland and hedgerows. The ZTV map should be read together with the viewpoint photographs and selective photomontages included as <b>Appendices 14.6</b> and <b>14.7</b> of the ES [TR020001/APP/5.02]) to understand the extent of visibility to the Proposed Development. The Chilterns AONB is located approximately 3km north and 5km west of LTN. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL). The study area has been agreed with the LVIA Working Group.

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4.13.7	Planning Inspectorate	Landscape and Visual	A clear methodology and statement of any assumptions made should be provided for the production of the proposed ZTV. The Applicant should seek to agree the methodology for preparing the ZTV with relevant consultation bodies.	The methodology for generating the ZTV is provided in <b>Appendix 14.1</b> of the ES [TR020001/APP/5.02] The methodology for generating the ZTV has been agreed with the LVIA Working Group.
4.13.8	Planning Inspectorate	Landscape and Visual	The Inspectorate expects that reference should also be made to relevant National Character Area profiles published by NE, and the East of England Landscape Typology	Relevant National Character Area profiles and the East of England Landscape Typology are referenced in <b>Section 14.7</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01].
4.13.9	Planning Inspectorate	Landscape and Visual	The Inspectorate welcomes the use of the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) as the basis of the methodology for the assessment. The Inspectorate expects effort to be made to agree the methodology for the proposed assessment with relevant consultation bodies. The Inspectorate notes that matrices are proposed to be used in the assessment, but also expects that there should be an emphasis on narrative text describing the landscape and visual effects and the judgements made about their significance. Tables and matrices should be used to support and summarise the descriptive text, not to replace it.	The likely significant landscape and visual effects resulting from the Proposed Development are assessed in <b>Sections 14.9 and 14.11</b> and <b>Appendices 14.4 and 14.5</b> of the ES [TR020001/APP/5.02]. A summary of effects on all landscape and visual receptors is provided in <b>Section 14.4</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01]. The assessments draw upon tables and matrices identified in <b>Appendix 14.1</b> of the ES [TR020001/APP/5.01] but use narrative text to describe and explain the landscape and visual effects and the judgements made.
4.13.10	Planning Inspectorate	Landscape and Visual	The assessment years 2020, 2024, 2029, 2039 and 2050 are proposed to reflect the phased build-up of passenger throughput, (and, it is assumed the infrastructure to support them) and to understand the effects of proposed structure planting measures and changes to land management objectives. These do not tie-in with dates given at Paragraph 3.6.2 of the Scoping Report, which state Phase 1 opening in 2027 and Phase 2 opening in 2036. The ES should make clear and justify the assessment years adopted for the ES and specific aspect chapters, where these differ. The assessment years adopted should take account of any required phasing of construction.	The assessment stages considered in <b>Chapter 14</b> of the ES [TR020001/APP/5.01] have been adjusted to reflect the duration of the Proposed Development delivery stages set out in <b>Table 5.3</b> in <b>Chapter 5</b> of this ES [TR020001/APP/5.01] and interim Air Transport Movement (ATM) effects. The assessment stages identified in <b>Section 14.9</b> of the ES [TR020001/APP/5.01] have been agreed with the LVIA Working Group.
4.13.11	Planning Inspectorate	Landscape and Visual	Table 18-2 shows National Parks and AONBs as typical examples of both Very High and High value landscape receptors. Judgements made on the value of landscape receptors should be consistent and clearly explained and justified in the ES.	A detailed explanation of the LVIA methodology is provided in <b>Appendix 14.1</b> of the ES [TR020001/APP/5.02]. Judgements made on the value of landscape receptors are detailed in <b>Appendix 14.4</b> of the ES [TR020001/APP/5.02].
4.13.12	Planning Inspectorate	Landscape and Visual	Text at 18.5.14 refers to the value of a visual receptor but Table 18-4 appears to relate to the value of particular views. It is assumed that this relates to Paragraph 6.37 of the Third Edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3). A clear distinction in the assessment should be made between the susceptibility of visual receptors as set out in Table 18-3 and the value of any particular views as set out in Table 18-4.	As identified within GLVIA3, the susceptibility of visual receptors is mainly a function of a) the occupation or activity of people experiencing the view at particular locations; and b) the extent to which their attention or interest may be focussed on views and the visual amenity they experience at particular locations. The value of views experienced by visual receptors is informed by the criteria set out in <b>Table 1.7</b> in <b>Appendix 14.1</b> of this ES [TR020001/APP/5.02]. Judgements on the value of views experienced by visual receptors are detailed in <b>Appendix 14.5</b> of this ES [TR020001/APP/5.02].
4.13.13	Planning Inspectorate	Landscape and Visual	Typical Criteria Descriptors are denoted by bullet points and it is not clear if only one or all of the Typical Criteria need to be met if a categorisation of Significance is to be adopted in the assessment. The assessment methodology needs to be clearly defined and consistently applied in the ES.	The bullet points used to denote significance criteria have been replaced with descriptive text to define each category of significance as set out at <b>Table 1.10</b> in <b>Appendix 14.1</b> of this ES [TR020001/APP/5.02].

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4.13.14	Planning Inspectorate	Landscape and Visual	The Scoping Report sets out the intention to conduct an assessment of impacts to tranquillity (as it relates to character of the landscape) and makes reference to Campaign to Save Rural England's Tranquillity Mapping in this regard. In addition to acknowledging tranquillity as a key factor in landscape character area sensitivity assessments the ES should also include consideration of significant effects on tranquillity from overflying aircraft, (including visual effects where significant effects are likely). The Applicant should also ensure that an assessment of impacts to tranquillity relevant to other aspects is assessed in the relevant ES chapters. The assessment of impacts to tranquillity should include consideration of effects to the Chilterns AONB.	There is no agreed methodology for assessing effects on tranquillity. An outline of how tranquillity is assessed in the ES is provided in <b>Chapter 5</b> and <b>Section 16.5 of Chapter 16</b> of this ES [TR020001/APP/5.01]. The LVIA regards tranquillity when undertaking the assessment of effects on landscape receptors (specifically where identifying the value of a landscape receptor and when considering the magnitude of landscape impacts on that receptor), further detail on this is provided in <b>Appendix 14.1</b> of this ES [TR020001/APP/5.02].  The Chilterns AONB is located approximately 3km north and 5km west of the airport. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL) as identified on <b>Figures 14.14 to 14.17</b> of this ES [TR020001/APP/5.03].  The approach to considering tranquillity with regards to landscape and visual effects and the study area has been agreed with the LVIA Working Group.
4.13.15	Planning Inspectorate	Landscape and Visual	Receptors that may be affected during the construction phase are listed. Full consideration of potential receptors should be made when the parameters of the scheme design are fixed, and effort should be made to agree these with relevant consultation bodies. The potential significant landscape and visual effects resulting from all elements of the Proposed Development should be taken into account, including off and on-site infrastructure required.	The assessment in <b>Section 14.9</b> of the ES [TR020001/APP/5.01] lists receptors that may be affected during construction, taking into consideration effects resulting from all elements of the Proposed Development; including off and on-site infrastructure required. The receptors considered within <b>Chapter 14</b> of the ES [TR020001/APP/5.01] have been agreed with the LVIA Working Group.
4.13.16	Planning Inspectorate	Landscape and Visual	Whilst there may be effects relevant to some receptors during the construction and operational phases, the potential for some receptors to be affected during the operational phase only should not be discounted. Effort should be made to agree these with relevant consultation bodies.	The possibility that some receptors may be affected during the operation of the Proposed Development only was considered when identifying the receptors potentially sensitive to change from the Proposed Development as set out in <b>Section 14.9</b> of the ES [TR020001/APP/5.01]. These receptors have been agreed with the LVIA Working Group.
4.13.17	Planning Inspectorate	Landscape and Visual	The Inspectorate expects effort to be made to agree the study area for the cumulative assessment with relevant consultation bodies.	A CLVIA has been carried out to determine the likely significant cumulative landscape and visual effects arising during the construction or operation of the Proposed Development and is reported within <b>Chapter 21</b> of the ES [TR020001/APP/5.01]. The CLVIA study area is the same as the LVIA study area.
4.13.18	Planning Inspectorate	Landscape and Visual	If the Applicant wishes to prepare a Residential Visual Amenity Assessment the Inspectorate expects that it should form part of the landscape and visual impact assessment aspect chapter in the ES. The Inspectorate draws attention to Landscape Institute Technical Guidance Note 02/2019 on Residential Visual Amenity Assessment, published in March 2019.	A Residential Visual Amenity Appraisal (RVAA) is provided as <b>Appendix 14.8</b> of the ES [TR020001/APP/5.02].  The methodology for undertaking the RVAA follows guidance set out within Landscape Institute Technical Guidance Note 02/2019. The methodology and residential properties considered within the RVAA have been agreed with the LVIA Working Group.
4.13.19	Planning Inspectorate	Landscape and Visual	The Applicant should ensure that the effectiveness of any proposed mitigation measures is thoroughly assessed in the ES, describing the likely significant effects of the Proposed Development both prior to mitigation and residually so that it is possible to understand the efficacy of proposed mitigation measures. The ES should also explain how measures proposed to mitigate landscape and visual effects, such as planting, may relate to other aspects, for instance impacts on ecological receptors. Appropriate cross-reference should be made between related aspects in the ES, such as Biodiversity, and Historic Environment.	The LVIA considers in <b>Section 14.9</b> (of <b>Chapter 14</b> of the ES [TR020001/APP/5.01]) the landscape and visual effects of the Proposed Development with embedded and good practice mitigation in place. <b>Section 14.11</b> subsequently considers the effects after additional mitigation (the residual effects) therefore clearly showing the efficacy of the additional mitigation. Describing the likely significant effects prior to embedded and good practice mitigation is not considered good practice as the embedded mitigation forms part of the Proposed Development.

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4.13.20	Planning Inspectorate	Landscape and Visual	<p>The Inspectorate considers that it is premature, in advance of the adoption of the parameters of the scheme design, to determine assessment viewpoints. The Inspectorate expects effort to be made to agree the locations of assessment viewpoints with relevant consultation bodies. Viewpoints should also be determined in consideration of sensitive cultural heritage receptors and to inform the cultural heritage assessment. Appropriate cross-referencing between the Landscape and Visual and Cultural Heritage aspect chapters should be included.</p> <p>Viewpoint locations should be clearly mapped and the direction and area covered by the view recorded. The information should be sufficient to enable the viewpoints to be located on site.</p>	<p>Viewpoint locations to be considered within the LVIA and to inform the cultural heritage assessment were coordinated with the assessors of cultural heritage and were agreed with the LVIA Working Group.</p> <p>Assessment viewpoint locations are mapped in <b>Figure 14.8</b> of the ES <b>[TR020001/APP/5.03]</b> and information regarding the direction and area covered is recorded beneath each of the viewpoint photographs included in <b>Appendix 14.6</b> of the ES <b>[TR020001/APP/5.02]</b>.</p> <p>How information is presented on the viewpoint photograph sheets has been agreed with the LVIA Working Group.</p>
4.13.21	Planning Inspectorate	Landscape and Visual	<p>It is unclear from the Scoping Report whether any the Applicant intends to produce any photomontages to support the landscape and visual impact assessment. The ES should include photomontages of both the baseline view and the view incorporating the Proposed Development, which should be numbered and cross-referenced to accurately plotted locations on an OS map of appropriate scale, which should also show the angles of the views. The Applicant should make effort to agree the methodology, the viewpoint locations, the assessment years and other scenarios which are to be portrayed with relevant consultation bodies.</p>	<p>Selective wireline or block model photomontages, included in <b>Appendix 14.7</b> of the ES <b>[TR020001/APP/5.02]</b>, have been produced to support the LVIA. These photomontages show both the baseline view and the view incorporating the Proposed Development.</p> <p>The photomontages have been produced from viewpoint locations mapped on <b>Figure 14.8</b> of the ES <b>[TR020001/APP/5.03]</b>. The Applicant has included in <b>Appendix 14.7</b> of the ES <b>[TR020001/APP/5.02]</b> photomontages from three viewpoint locations that show the effectiveness of proposed landscape mitigation ahead of assessment Phase 2a and at the year of maximum passenger capacity. The three locations where landscape mitigation has been portrayed were selected because of their ability to demonstrate the effectiveness of these measures and because they are representative of views experienced by potentially sensitive visual receptors. The methodology, locations, assessment years and viewpoint locations portrayed in the photomontages have been agreed with the LVIA Working Group.</p>
Appendix 2	Chilterns Conservation Board	Landscape and Visual	<p>In Table 1 the scope of the Landscape and Visual Assessment (LVIA) should include the following in order to meet recommended practice in the Landscape Institute's Guidelines for Landscape and Visual Impact Assessment (3rd Edn):</p> <ul style="list-style-type: none"> <li>• Landscape character, with particular attention to the impacts of moving approximately 4,000,000m<sup>3</sup> of earth, excavated from the land to the east of the platform, creating large craters into which car parks will be placed, to win material for building up the airport platform. The steep 1 in 3 gradient of the proposed slopes, and the artificial shape of embankments (see Figure 3.1) should be assessed and compared with the existing natural chalk hillside.</li> <li>• Tranquillity, including noise, vapour trails, motion and effects on perception of unspoilt and peaceful places. Tranquillity is currently scoped out of the LVIA part of the EIA, as explained at para 18.5.20. We disagree.</li> <li>• Sequential effects eg on a series of viewpoints or along popular walks like the Chiltern Way</li> <li>• Cumulative effects eg airport plus other planned housing, new roads, employment growth</li> <li>• Night time views as well as daytime views in order to identify and address any increase in light pollution from an expanded airport and from aircraft overhead. This will help safeguard dark night skies and the experience bright stars from the Chilterns AONB.</li> </ul>	<p>Effects on the landform to the east of LTN are considered as a constituent element of the landscape and in their contribution to published landscape character areas in <b>Sections 14.9 and 14.11</b> of the ES <b>[TR020001/APP/5.01]</b>.</p> <p>There is no agreed methodology for assessing effects on tranquillity. The LVIA regards tranquillity when undertaking the assessment of effects on landscape receptors (specifically where identifying the value of a landscape receptor and when considering the magnitude of landscape impacts on that receptor). Further detail on this is provided in <b>Appendix 14.1</b> of the ES <b>[TR020001/APP/5.02]</b>.</p> <p>The Chilterns AONB is located approximately 3km north and 5km west of LTN. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL).</p> <p>The approach to considering tranquillity and the study area has been agreed with the LVIA Working Group. The potential for other visual effects (e.g. aircraft movements or vapour trails) was not discounted by the Applicant when considering effects on tranquillity.</p> <p>The visual assessment provided in <b>Sections 14.9 and 14.11</b> and <b>Appendix 14.5</b> of the ES <b>[TR020001/APP/5.02]</b> takes into consideration sequential effects experienced by those travelling along a route, including those experienced by users of the Chiltern Way long distance path.</p> <p>A Light Obtrusion Assessment is provided as <b>Appendix 5.1</b> of the ES <b>[TR020001/APP/5.02]</b>. The assessment undertaken at <b>Sections 14.9 and 14.11</b> and <b>Appendix 14.5</b> of the ES draw on the judgements of the Light Obtrusion Assessment.</p>

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Appendix 2	Chilterns Conservation Board	Landscape and Visual	For landscape and visual considerations, the 5km proposed study area is too narrow. Given the topography, Luton Airport might be visible from wider parts of the Chilterns Hills. Rather than just views of the airport, other visual effects like aircraft moving through the sky above the wider AONB creating motion and vapour trails should be addressed too.	The Chilterns AONB is located approximately 3km north and 5km west of LTN. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL). This is shown on <b>Figures 14.14 to 14.17</b> of the ES <b>[TR020001/APP/5.03]</b> . The study area has been agreed with the LVIA Working Group.
Appendix 2	Chilterns Conservation Board	Landscape and Visual	The area east of Luton, including land within the airport's proposed development boundary, is candidate land for AONB boundary review. Although Figure 18.1 shows the current AONB boundary, it should also show the land that has been proposed by the Chilterns Conservation Board for inclusion in the Chilterns AONB, in a still live application made to Natural England. The area to the east of Luton is a potential candidate for extension of the AONB based on criteria published by Natural England relating to landscape quality, scenic quality and relative wildness, relative tranquillity and cultural heritage (Guidance for assessing landscapes for designation as National Park or AONB, 2011). In September 2010 the North Herts DC cabinet passed a resolution to support consideration of the area as AONB. The area has a clear affinity with the rest of the Chilterns. It contains clearly recognisable Chilterns features such as chalk streams and associated dry valleys and small settlements, with isolated farms and dwellings with red brick and flint as dominant building materials. The woodland cover is good, with much of it being Ancient Woodland. It is of the same high quality as landscape in the AONB, the current boundary is arbitrary, following the A505 road and not natural features (see Appendix 1 for a map and extract from our AONB boundary review application).	There is no legal requirement to assess the effects on the proposed boundary extension to the AONB. A sensitivity test of the proposed boundary extension to the AONB is included at Appendix 14.9 of the ES, based on the 'search area' extents shown in the Chiltern Conservation Board application to Natural England.
Appendix 2	Chilterns Conservation Board	Landscape and Visual	Figure 18.1 the LVIA constraints plan uses a 5km buffer around the airport and excludes most of the land in the Chilterns AONB further west and north. Only one proposed viewpoint (at Ivinghoe Beacon) is shown within the Chilterns AONB on Figure 18.4. This is not enough. Para 18.4.11 of Vol1 explains of the existing airport "The airport is a prominent and visually intrusive feature within views from the surrounding area", and likely to be more so with an expanded airport. Suggest include a map of Zones of Theoretical Visibility, overlain with the Chilterns AONB boundary, to assess other viewpoints needed. The study area for the LVIA should be re-assessed once ZTV work has been carried out.	Viewpoint locations to be considered within the LVIA were agreed with the LVIA Working Group. Assessment viewpoint locations are mapped in <b>Figure 14.8</b> of the ES <b>[TR020001/APP/5.03]</b> with viewpoint photographs included in <b>Appendix 14.6</b> of the ES <b>[TR020001/APP/5.02]</b> . The assessment viewpoint locations were informed by a ZTV of the Proposed Development shown on <b>Figure 14.2</b> of the ES <b>[TR020001/APP/5.03]</b> and include, additionally to the view from Ivinghoe Beacon, views from within the Chilterns AONB at Stipers Hill and Warden Hill.

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Appendix 2	Chilterns Conservation Board	Landscape and Visual	<p>Why are no viewpoints included within the site boundary (Figure 18.1) eg Wigmnore Park and from the Public Right of Way over attractive chalk fields sloping towards Winch Hill to the east? 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 are neglected by the proposed LVIA.</p>	<p>Viewpoint locations to be considered within the LVIA are mapped in <b>Figure 14.8</b> of the ES [TR020001/APP/5.03] and were agreed with the LVIA Working Group. Several assessment viewpoints from within the Application Boundary have been provided, including views from locations within the existing Wigmnore Valley Park and future area of Replacement Open Space. An eastward view from Luton Borough public footpaths FP29 and FP38 and public bridleways BW28 and BW37 to the southeast of Wigmnore Valley Park and to the east of the existing LTN airfield is not provided as these Public Rights of Way would be stopped-up to facilitate the Proposed Development ahead of excavation activities commencing during construction for assessment Phase 2a, with connectivity restored on a differing alignment following assessment Phase 2b. <b>Sections 14.9 and 14.11 [TR020001/APP/5.01]</b> and <b>Appendices 14.4 and 14.5</b> of the ES [TR020001/APP/5.02] provide an assessment of the effects on the network of PRoW east of LTN, on the parkland of Wigmnore Valley Park, on visitors to Wigmnore Valley Park and on users of Luton Borough public footpaths FP29 and FP38 and public bridleways BW28 and BW37 to the southeast of Wigmnore Valley Park and to the east of the existing LTN airfield. The visual assessment provided in <b>Sections 14.9 and 14.11</b> and <b>Appendix 14.5</b> of the ES [TR020001/APP/5.02] does not assess construction phase effects on users of Luton Borough public footpaths FP29 and FP38 and public bridleways BW28 and BW37 to the southeast of Wigmnore Valley Park and to the east of the existing LTN airfield during assessment Phases 2a and 2b because this PRoW would be stopped up during this period and accordingly users would not therefore be able to experience changes to visual amenity during this period.</p>
Appendix 2	Chilterns Conservation Board	Landscape and Visual	<p>Why is there no map of Public Rights of Way, to help identify viewpoints? Two important strategic recreation assets, the Chiltern Way footpath (a 125 mile walking route though some of the finest scenery in the country) and the Chilterns Cycleway (a 170 mile circular cycle route through the Chilterns AONB) both run close to the east of the development boundary. There are public rights of way over highly attractive chalk landscape which would be altered beyond recognition, and this should be explored in the LVIA part of the EIA.</p>	<p>A map showing the Public Rights of Way is provided at Figure 14.6 of the ES. The map includes also the alignment of the Chiltern Way long distance footpath and the Chilterns Cycleway. <b>Sections 14.9 and 14.11</b> and <b>Appendices 14.4 and 14.5</b> of the ES [TR020001/APP/5.02] include an assessment of effects on the network of PRoW east of LTN and on views experienced by users of several Public Rights of Way.</p>
Appendix 2	Natural England	Landscape and Visual	<p>Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.</p>	<p>The character assessments published and adopted by the local planning authorities were reviewed critically through desk-based analysis and fieldwork to determine their suitability in informing the LVIA process. The review concluded that the published and adopted assessments were suitable and their use to inform assessment of effects on landscape character was agreed with the LVIA Working Group. Local Landscape Character Areas are shown on <b>Figure 14.3</b> of the ES [TR020001/APP/5.03]. <b>Chapter 14</b> of the ES [TR020001/APP/5.01] presents the assessment of likely significant effects of the Proposed Development on Landscape and Visual receptors, including:</p> <ul style="list-style-type: none"> <li>a.the constituent elements of the landscape;</li> <li>b.the specific aesthetic or perceptual qualities of the landscape;</li> <li>c.the character of the landscape; and</li> <li>d.people who will be affected by changes in views or visual amenity.</li> </ul>

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Appendix 2	Natural England	Landscape and Visual	The EIA should include a full assessment of the potential impacts of the development on local landscape character using landscape assessment methodologies. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.	The character assessments published and adopted by the local planning authorities were reviewed critically through desk-based analysis and fieldwork to determine their suitability in informing the LVIA process. The review concluded that the published and adopted assessments were suitable and their use to inform assessment of effects on landscape character was agreed with the LVIA Working Group. Local Landscape Character Areas are shown on <b>Figure 14.3</b> of the ES [TR020001/APP/5.03].
Appendix 2	Natural England	Landscape and Visual	Natural England supports the publication Guidelines for Landscape and Visual Impact Assessment, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment.	The assessment methodology adopted for the LVIA, provided at <b>Appendix 14.1</b> of the ES [TR020001/APP/5.02] follows the principles and approaches set out in the third edition of the Guidelines for Landscape & Visual Impact Assessment (GLVIA3) and associated clarifications published by the GLVIA Panel.
Appendix 2	Natural England	Landscape and Visual	In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.	The Proposed Development considers local landscape character and the distinctiveness of the area, reflecting local design characteristics and, wherever possible, promoting the use of local materials. <b>Chapter 3</b> of the ES [TR020001/APP/5.01] provides and assessment of alternatives considered, and includes justification of the selected option in terms of landscape impact and benefit.
Appendix 2	Natural England	Landscape and Visual	The assessment should refer to the relevant National Character Areas which can be found on our website. Links for Landscape Character Assessment at a local level are also available on the same page.	<b>Section 14.7</b> of the <b>Chapter 14</b> of the ES [TR020001/APP/5.01] refers to the relevant National Character Area.
Appendix 2	Natural England	Landscape and Visual	You should consider whether there is land in the area affected by the development which qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific or historic interest. An up-to-date list may be obtained at <a href="http://www.hmrc.gov.uk/heritage/lbsearch.htm">www.hmrc.gov.uk/heritage/lbsearch.htm</a> .	The area affected by the Proposed Development does not include land that qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific or historic interest.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	In relation to the 'Legislation, policy and guidance' described in the SR (Section 18.2), it is important to recognise that the extent and designation of the Area of Outstanding Natural Beauty (AONB) is currently under review. There is a demonstrable case for an upgrade to National Park Status and there has been pressure to extend the area covered by the Chilterns AONB to the east of Luton (within NHDC). Both aspirations are covered in the draft Chilterns Area of Outstanding Natural Beauty Management Plan 2019-2024 (Chilterns Conservation Board, Feb 2019).	The Glover Report does not have any statutory weight. It has subsequently been agreed with the LVIA Working Group accordingly that there isn't a need for this potential change to be considered in the future baseline. There is no legal requirement to assess the effects on the proposed boundary extension to the AONB. A sensitivity test of the proposed boundary extension to the AONB is however included at <b>Appendix 14.9</b> of the ES [TR020001/APP/5.02], based on the 'search area' extents shown in the Chiltern Conservation Board application to Natural England.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	We note that the Landscape and Visual Impact Assessment (LVIA) does not appear to take account of increases in ATMs and the potential effect of these on either the AONB or other areas around LTN that may be valued for recreation and amenity including areas associated with cultural heritage sites, country parks and designated Local Green Spaces, etc. These need to be considered as part of the LVIA and the Study Area for the LVIA will need to further considered once the noise and transport assessments are further refined.	The assessment periods considered in the <b>Chapter 14</b> of the ES [TR020001/APP/5.02] have been agreed with the LVIA Working Group and take into account increases in ATMs. It was agreed with the LVIA Working Group that designations contribute to landscape value but are not in themselves landscape or visual receptors. It was accordingly agreed with the LVIA Working Group that an assessment of the impact that the Proposed Development may have on a landscape or heritage designation is beyond the scope of LVIA. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL). This is shown on <b>Figures 14.14 to 14.17</b> of the ES [TR020001/APP/5.03]. The study area has been agreed with the LVIA Working Group.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Table 18-3: Visual Susceptibility to Change:- with regards to users of public rights of way, the distinction between users who may or may be not be focused on the landscape/or views is not supported and it is not clear how this could be evidenced. In line with experience and good practice to demonstrate worst case scenario, all users of public rights of way and footpaths should be considered high.	The criteria for determining visual susceptibility to change provided at <b>Table 6</b> in <b>Appendix 14.1</b> of the ES [TR020001/APP/5.02] removes the distinction between users of Public Rights of Way (PRoW) who may be focused on the landscape or views and recognises all users of PRoW to be considered high. The criteria has been discussed and agreed with the LVIA Working Group.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Table 18-4: Visual Important / Value:- there is concern with regards to the criteria for views of medium importance where a landscape and/or heritage asset makes some contribution to the view. Even where an asset makes some contribution to the view, the importance could still be high. For example a designated heritage asset and its setting could be considered to be of significant importance, and any degradation of it or its setting, no matter how small, could be considered unacceptable. Each heritage asset will therefore need to be considered on its own merits.	The criteria set out in Table 18.4 (now <b>Table 1.2</b> of <b>Appendix 14.1</b> of the ES) has regards only to the effects on visual amenity experienced by people. Impacts on the setting of heritage assets are assessed separately within <b>Chapter 10</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Table 18-5: Magnitude of Landscape Impact and Table 18-6: Magnitude of Visual Impact :- there is concern that the tables that are not evenly weighted, if it is agreed that medium represents a 'middle status' then it is suggested that 'very low' is not required, or that 'very high' should be added. This will affect the matrices that consider magnitude of impact and will need to be reviewed.	It is not the case that 'medium represents the 'middle status.' The 'high' classification simply merges what would be the 'very high' change criteria (i.e. 'total loss' or 'comprehensive improvement') with that of the 'high' change (i.e. 'large scale'). The classification of magnitude of impact is ultimately reliant upon professional judgement. The criteria for determining magnitude of landscape impact provided at <b>Table 1.3</b> in <b>Appendix 14.1</b> [TR020001/APP/5.02] of the ES has been discussed and agreed with the LVIA Working Group.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Table 18-7: Significance of Effect:- the same comment in the paragraph above is applicable to the assessment of impacts in this table. In addition, the table only identifies 4 scenarios which give rise to significant effects (moderate or above), it is queried if where the magnitude of impact is low but the sensitivity of the receptor is high then the significance of effects should be moderate, and vice versa.	The significance of a landscape or visual effect is ultimately assessed through professional judgement and in the scenario advised (i.e. low magnitude of impact from a high sensitivity receptor) a judgement would be made as to whether an effect is of moderate or minor value. This is consistent with best practice and the recognition that weightings between sensitivity and magnitude (positive or adverse) should not always be linear.



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	<p>Para 18.5.21 – see comments above at para. 4.144 with regards to Table 18-2: Landscape Value. In general we consider that the assessment of potential impacts on tranquillity including noise, movement, light pollution and impact on dark skies will need to be expanded upon in the LVIA process and in accordance with:</p> <ul style="list-style-type: none"> <li>- NPPF (2019) Chapter 8 Promoting Healthy &amp; Safe Communities - Open Spaces and Recreation, para. 100 and Chapter 15 Conserving and Enhancing the Natural Environment, para 180.</li> <li>- Airports National Policy Statement (2018) Chapter 5 Assessment of Impacts, para. 5.213 which states that landscape and visual effects also include tranquillity effects which would affect enjoyment of the natural environment and recreation, and para. 5.216 which highlights the assessment of potential impacts on views and visual amenity and any noise and light pollution effects, including local amenity, tranquillity and nature conservation, para. 5.219 which deals with development within nationally designated areas; and 5.222 development outside nationally designated areas which might affect them.</li> <li>- Central Bedfordshire Council Local Plan 2015 - 2035 (Pre-submission Jan 2018); Policy EE5 Landscape Character and Value, safeguarding intrinsic character, scenic beauty and perceptual qualities such as tranquillity. Policy EE6 Tranquillity, protection of areas of high tranquillity at both strategic and community scales. Policy EE7 The Chilterns AONB, need to conserve the special qualities, distinctive character, tranquillity and remoteness in accordance with national planning policy and the overall purpose of the AONB designation.</li> <li>- Chilterns Conservation Board - Chilterns AONB Management Plan 2019 - 2024; Policies DP2 &amp; DP14 supporting guidance on protection of special qualities of the AONB and tranquillity.</li> </ul>	<p>There is no agreed methodology for assessing effects on tranquillity. The LVIA regards tranquillity when undertaking the assessment of effects on landscape receptors (specifically where identifying the value of a landscape receptor and when considering the magnitude of landscape impacts on that receptor), further detail on this is provided in <b>Appendix 14.1</b> of the ES [TR020001/APP/5.02]</p> <p>The Chilterns AONB is located approximately 3km north and 5km west of LTN. The study area for the LVIA includes, for the purpose of considering impacts on tranquillity, land within the Chilterns AONB where aircraft would be below 7,000 ft. (AMSL).</p> <p>The approach to considering tranquillity and the study area has been agreed with the LVIA Working Group.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	<p>It is not clearly stated how the LVIA will approach the assessment of the phased construction works, and the site at operation. In line with GLVIA3 each stage should be assessed separately.</p>	<p>The assessment stages considered in <b>Chapter 14</b> of the ES [TR020001/APP/5.01] have been adjusted to reflect the duration of the Proposed Development delivery stages set out in <b>Table 5.3</b> of the <b>Chapter 5</b> of the ES [TR020001/APP/5.01] and interim ATM effects.</p> <p>The assessment stages identified in <b>Section 14.9</b> of <b>Chapter 14</b> of the ES [TR020001/APP/5.01] have been agreed with the LVIA Working Group.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	<p>It is not clear if the list in para. 18.6.3 of landscape receptors potentially affected includes Wigmore Valley Park or just its parkland setting. It is suggested that the list in paragraph 18.6.3, of landscape receptors, should also include LCA 212 Lilley Bottom.</p>	<p>The LVIA does not assess the impact of development on Wigmore Valley Park as a character area but as an asset of the landscape that's physical extents would vary associated with the proposed development. The effect of the proposals on the character of the landscape encompassed by Wigmore Valley Park is considered in the assessment of effects on LBLCA13, HLCA 200 and HLCA 201 in <b>Appendix 14.4</b> of the ES [TR020001/APP/5.02].</p> <p>The receptors to be assessed within the LVIA have been agreed with the LVIA Working Group.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	It is also suggested that the list in para. 18.6.5 of visual receptors, should also include the following: <ul style="list-style-type: none"> <li>• the residents of Tea Green;</li> <li>• users of Winsdon Hill;</li> <li>• Public Rights of Way (PROWs) Offley 023, Kings Walden 010; and Kings Walden 020;</li> <li>• road users of Stoney Lane; Dane Street; Chiltern Green Road; Heath Road.</li> </ul>	<b>Chapter 14</b> of the ES [TR020001/APP/5.01] includes an assessment of effects on: <ul style="list-style-type: none"> <li>• the residents of Tea Green;</li> <li>• users of Winsdon Hill; and</li> <li>• Public Rights of Way (PROWs) Kings Walden 010.</li> </ul> Further to engagement with the LVIA Working Group, during which the additional receptors were overlaid onto the ZTV mapping, it was agreed that the following receptors did not need to be assessed: <ul style="list-style-type: none"> <li>• PROW Offley 023 and Kings Walden 020; and</li> <li>• road users of Stoney Lane; Dane Street; Chiltern Green Road; Heath Road.</li> </ul>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Para 18.6.6 – 18.6.7 :- whilst it is understood that there will be adverse residual effects of varying significance, it should also be clearly stated at this stage that these will be compensated for through other measures such as for example off site compensation, and supporting local landscape enhancement projects.	Whether proposed mitigation measures were sufficient to reduce significant adverse effects was discussed with the LVIA Working Group and it was agreed that further offsite mitigation measures were not necessary.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	However, there is concern in respect of the potential significant adverse effects as a result of the Proposed Development, and there needs to be assurance that compensatory measures will be delivered and steered by the appropriate LPA representatives.	The LVIA Working Group has been consulted when determining compensatory measures for potential significant adverse effects. Whether proposed mitigation measures were sufficient to reduce significant adverse effects was discussed with the LVIA Working Group and it was agreed that further offsite mitigation measures were not necessary.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	The fact that a 'Non-EIA Residential Visual Amenity Appraisal' will be prepared and submitted alongside the ES is noted and welcomed.	A Non-EIA Residential Visual Amenity Appraisal is included as <b>Appendix 14.8</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Mitigation should also consider ecological impacts of mitigation measures as well as consider the historic development of / changes to the local landscape, as this could also influence landscape restoration proposals. Reference to Landscape Character Areas is important as these help to define a context for future land management issues. Given the ecological implications of LCAs, we support their inclusion as a context for the proposals.	The LVIA Working Group has been consulted when determining compensatory measures for potential significant adverse effects. Whether proposed mitigation measures were sufficient to reduce significant adverse effects was discussed with the LVIA Working Group and it was agreed that further offsite mitigation measures were not necessary.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Landscape and Visual	Supporting plans are required to help inform the LPAs understanding of the scheme and should include existing and proposed contours, levels and gradients. Cross sections should extend beyond the site boundary to show the relationship between the scheme and its wider landscape context.	<b>General Arrangement Plans and Engineering Drawings and Sections [TR020001/APP/4.10]</b> to help inform the LPAs understanding of the scheme have been produced.
Appendix 2	Natural England	Landscape and Visual Cumulative	The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application	A cumulative effects assessment for landscape and visual impact has been included within <b>Chapter 21</b> In-Combination and Cumulative Effects of the ES <b>[TR020001/APP/5.01]</b> .
<b>Major Accidents and Disasters</b>				
3.2.15	Planning Inspectorate	Major Accidents and Disasters	The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.	<b>Chapter 15</b> Major Accidents and Disasters of the ES <b>[TR020001/APP/5.01]</b> presents the assessment of the likely significant effects resulting from potential major accidents and disasters relevant to the Proposed Development. The assessment considers both, the Proposed Development's vulnerability to MA&D hazards and the potential of the Proposed Development to give rise to new MA&D risks. Guidance relevant to understanding the likelihood of a MA&D occurring and the Proposed Development's susceptibility to potential MA&D hazards have been referenced throughout this chapter, where applicable, and is summarised in <b>Section 15.2 of Chapter 15</b> of the ES <b>[TR020001/APP/5.01]</b> . HSE have been consulted at all stages of the Proposed Development in line with the guidance presented in Annex G to the Planning Inspectorate Advice Note 11. The risk assessment referred to within the Advice Note 11, Annex G is to be submitted to HSE post-consent as part of the COMAH consent application, following the development of detailed design. Human health, cultural heritage and the environment have been considered as receptors of potential risks of MA&D, as explained in <b>Section 15.7 of Chapter 15</b> of the ES <b>[TR020001/APP/5.01]</b> . Measures employed to prevent and control MA&D risks are outlined in <b>Sections 15.8 and 15.10</b> .
3.2.16	Planning Inspectorate	Major Accidents and Disasters	Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation 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.	The MA&D assessment presented within <b>Chapter 15</b> Major Accidents and Disasters of the ES <b>[TR020001/APP/5.01]</b> has been informed by the consideration of potential hazards associated with the use and storage of hazardous substances, which would be subject to the requirements of COMAH Regulations. A detailed risk assessment will be undertaken to obtain COMAH consent from HSE, following the development of detailed design and prior to hazardous substances being brought to site. The MA&D assessment presented within this chapter provides a summary of the types of hazards covered under the COMAH consenting regime, the reasonably foreseeable worst-case environmental consequence and a summary of the required mitigation, in the form of regulatory requirements, to reduce these risks to ALARP. Compliance with the COMAH consent is considered to form part of tertiary mitigation within this chapter. The requirements of Council Directive 2009/71/Euratom are not relevant to the Proposed Development, as this Directive applies to nuclear installations.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.15.1	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report seeks to scope out matters where there is no source-pathway-receptor link, such as natural disasters unlikely to affect the Proposed Development site e.g. tsunamis and sea level rise. The Inspectorate is content that the impacts associated with such matters are unlikely to represent major accident and disaster significant events and can be scoped out of the assessment.	No further response required. This comment is for information purposes only.
4.15.2	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report seeks to scope out such matters on the basis that the severity and emergency response to the accidents and disasters associated with these activities would not be affected by the Proposed Development. The Inspectorate is uncertain of the full extent of matters to be scoped out on this basis. Furthermore, the Inspectorate does not consider that sufficient information regarding the existing emergency response procedures has been provided to justify the scoping out of these matters. The ES should include a definition of the and the current systems in place to address impacts for these matters. Where significant effects are likely to occur, this should be assessed in the ES.	All major accident and disaster hazards relevant to the Proposed Development have been identified within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the Environmental Risk Record (refer to <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]). Where relevant, the existing operational management systems at the airport implemented in compliance with the Aerodrome Certificate have been considered to form part of tertiary mitigation within the assessment. A summary of the current systems in place is provided within <b>Section 15.8</b> .
4.15.3	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report seeks to scope out such matters and provides the example of disease outbreak. The Inspectorate is uncertain of the full extent of matters to be scoped out by this description. The ES should include a definition of these events and where significant effects are likely to occur, this should be assessed in the ES.	All major accident and disaster hazards relevant to the Proposed Development have been identified within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]). Disease outbreaks have been scoped in, including spread of COVID-19.
4.15.4	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report states that members of the public who wilfully trespass will not be considered as sensitive receptors as there are, and will continue to be, appropriate measures to provide a secure boundary to the Airport in line with appropriate standards of compliance. The Inspectorate notes that there is limited information regarding this matter in the Scoping Report. However, the Inspectorate is content that the ES should include an appropriate description of the current systems in place to address these matters and on that basis significant effects are unlikely to occur.	The safety and security procedures at the Proposed Development will be managed under an Aerodrome Certificate in line with the requirements of relevant regulations and guidance. A description of the operational management systems in place in compliance with the Aerodrome Certificate is provided in <b>Section 15.8 of Chapter 15</b> of the ES [TR020001/APP/5.01].
4.15.5	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report seeks to scope out matters where the consequence does not result in significant harm. The Inspectorate is content that the impacts associated with such matters are unlikely to represent major accident and disaster significant events and can be scoped out of the assessment.	No further response required. This comment is for information purposes only.
4.15.6	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report seeks to scope out such matters as these will be covered by other aspect chapters within the ES. The Inspectorate is uncertain of the full extent of matters to be scoped out by this description. The Inspectorate is content that these matters are to be assessed elsewhere in the ES but there should be cross reference made to appropriate aspect chapters.	Cross references to relevant topic assessments have been provided throughout the MA&D chapter ( <b>Chapter 15</b> of the ES [TR020001/APP/5.01]) and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]), where appropriate.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.15.7	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report expressly scopes these matters into the assessment during the operational phase of the Proposed Development but excludes them from the assessment of construction impacts. The Inspectorate considers that insufficient information has been provided to justify a scoping out of these matters at this stage. The ES should assess impacts to these matters where significant effects are likely to occur. Furthermore, with regards to the risk of vandalism, crime and terrorism during both construction and operation, the Inspectorate is of the view that the onsite safety of Airport staff should be taken into consideration, in addition to the onsite safety of members of the public.	The assessment of the risk of vandalism/ crime/ terrorism cyber-attack and digital/ data security; and civil unrest/ protests for the construction of the Proposed Development has been included within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]). Risks to both, airport staff and members of the public, have been considered. Refer to risks ID C26, C27, C29 in the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]) and in <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01].
4.15.8	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report does not appear to specifically address these matters as being scoped in to the assessment of major accidents and disasters. The Inspectorate does not consider that sufficient information has been provided to justify the scoping out of these matters at this stage. The ES should assess impacts to these matters where significant effects are likely to occur.	<b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]) include an assessment of these risks, as follows: <ul style="list-style-type: none"> <li>•Absent or deficient safety/ environmental management systems (e.g. inadequate planning, resource provision, procedures): ID C20 and O20;</li> <li>•Absent or deficient security provision (e.g. inadequate planning, resource provision, procedures): ID C21 and O21;</li> <li>•Importation of biological agents/ biohazard/ disease/ pathogen including disembarkation of passengers and/ or flight with controlled disease or biohazard: ID C28 and O29;</li> <li>•External aircraft interference (lasers, fireworks, sky lanterns, drones, wind turbine interaction with radar): ID C25 and O25;</li> <li>•Space weather (e.g. geomagnetic storms, radiation storms and solar flares) leads to loss of systems (e.g. loss of primary navigation system or loss of communications): ID C9 and O9; and</li> <li>•Loss of essential air safety and airside systems or loss of safety critical workers: ID C20 and O20.</li> </ul> Artefacts of national or international importance during import or export have been considered as a receptor for MA&D effects in the assessment.
4.15.9	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report notes that key consultation bodies have been identified and that consultation will be undertaken and recorded throughout the pre-application stage. The ES should clearly evidence any such consultation that is undertaken, the consultation bodies that have taken part and the outcomes that have been decided upon.	A summary of consultation undertaken and the outcomes is provided in <b>Section 15.4 of Chapter 15</b> of the ES [TR020001/APP/5.01].
4.15.10	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report states that the potential maximum impact extent will be determined during the assessment. The ES should clearly evidence and justify the final extent of the study area used in the assessment of this aspect. The study area should be sufficient to encompass the likely significant effects of the Proposed Development from the perspective of major accidents and disasters and effort should be made to agree the approach with relevant consultation bodies.	The study area is described within <b>Section 15.5</b> of Chapter 15 of the ES [TR020001/APP/5.01] and shown on <b>Figure 15.1</b> of the ES [TR020001/APP/5.03]. The study area for each MA&D hazard is further detailed in the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]).

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.15.11	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report states that the baseline and receptors will be largely informed by other aspect chapters. The ES should provide a description of all receptors and baseline conditions to be considered as part of the major accidents and disasters assessment, including cross referencing and signposting to the relevant sections of other aspect chapters that are being relied upon. In addition to the conditions set out in the other aspect assessments the ES should establish a baseline in respect of natural disasters, for example setting out the current susceptibility of the site to seismic movement, extreme storms, tornadoes, snow and fog.	A summary of baseline conditions is provided within <b>Section 15.7 of Chapter 15</b> of the ES [TR020001/APP/5.01]. This includes cross-references to other technical chapters that have been relied upon, where applicable. <b>Section 15.7 of Chapter 15</b> of the ES [TR020001/APP/5.01] also includes baseline information on current susceptibility of the study area to natural disasters.
4.15.12	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report notes that baseline information relevant to the assessment of major accidents and disasters will be obtained from a number of sources. The ES should include a complete list of all sources that have been relied upon in establishing the baseline conditions.	References to the sources consulted to obtain baseline information have been provided within <b>Section 15.7 of Chapter 15</b> of the ES [TR020001/APP/5.01].
4.15.13	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report refers to 'consultation distances' held by HSE in respect of COMAH sites and LPAs in respect of Hazardous Substances Consent sites, and states that further assessment may be required if an interaction between these sites and the Proposed Development is identified. The ES should clearly set out these consultation distances and the steps taken to identify any interaction between the sites and the Proposed Development. The Applicant should make effort to agree its approach with HSE and the LPAs.	It is noted that Consultation Zones are only applied to Upper Tier COMAH sites and major accident hazard pipelines. HSE's scoping response identifies that the Proposed Development is located within one major accident hazard pipeline Consultation Zone for the existing Prax fuel pipeline (refer to <b>Figure 15.1</b> of the ES [TR020001/APP/5.03]). Risks ID C12, C14 and O14 within <b>Section 15.9 of Chapter 15</b> of the ES and the ERR (Appendix 15.1 of the ES [TR020001/APP/5.02]) consider hazards associated with the existing fuel pipeline.  A search for COMAH and HSC sites within 5km of the Proposed Development has been undertaken and with the exception of the existing fuel farm at the airport (which is a Lower Tier COMAH site), no other sites have been identified. The existing fuel farm at the airport has been considered under risk ID C12, C14 and O14 within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR (Appendix 15.1 of the ES [TR020001/APP/5.02]).
4.15.14	Planning Inspectorate	Major Accidents and Disasters	Reference is made throughout the Scoping Report to various risk registers that will list identified risks relevant to the assessment of major accidents and disasters. In the event that such registers are to be relied upon in assessing significance, copies of these should be provided as appendices to the ES.	The assessment presented within this chapter has been based on the risk register included within the ERR, refer <b>Appendix 15.1</b> of this ES [TR020001/APP/5.02].
4.15.15	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report states that further consultation will be undertaken to ensure that all risks are as low as reasonably practicable. The ES should provide an overview of any such consultation that is undertaken with the relevant consultation bodies and the outcomes that have been decided upon as they relate to the assessment of likely significant effects.	A summary of consultation undertaken, and the outcomes, is provided in <b>Section 15.4 of Chapter 15</b> of the ES [TR020001/APP/5.01].

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.15.16	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report refers to various factors that are relevant to the identification of a potential significant effect, to include: the sensitivity of receptors; the duration of effect; the geographic extent of effect; the severity of effect; and the effort required to restore an affected environment. However, no information is provided on how each of these factors will be taken into consideration to determine significance. The ES should clearly demonstrate how these factors are taken into consideration and combined to determine the overall significance of effects.	Assessment criteria is outlined in <b>Section 15.5 of Chapter 15</b> of the ES [TR020001/APP/5.01]. Full details of the significance criteria for the assessment of MA&D risks is provided in the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]).
4.15.17	Planning Inspectorate	Major Accidents and Disasters	The Scoping Report states that reference will be made to the tolerability criteria of major accidents and disaster hazards as mentioned in 'Reducing Risks, Protecting People: HSE's decision making process'. The ES must clearly set out the risk tolerability criteria referred to and contain an explanation as to how it has been taken into consideration within the assessment in concluding on likely significant effects.	Assessment criteria is outlined in <b>Section 15.5 of Chapter 15</b> of the ES [TR020001/APP/5.01]. Full details of significance criteria, including tolerability criteria, for the assessment of MA&D risks is provided in the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]).
4.15.18	Planning Inspectorate	Major Accidents and Disasters	The ES should take into account increased likelihood of aircraft related incidents that could arise from the proposed increased in ATMs, where likely significant effects could occur.	This risk has been assessed within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]) (refer to risk ID O16).
Appendix 2	Civil Aviation Authority	Major Accidents and Disasters	22. We note at paragraph 20.6.3 that there is no reference to increased likelihood of aircraft related incidents that could arise as a result of a projected 50% uplift in ATMs planned by 2038. The Applicant may wish to demonstrate that this has been taken into account.	This risk has been assessed within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]) (refer to risk ID O16).
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	According to HSE's records there is one major accident hazard pipeline within the proposed application boundary of the Expansion of London Luton Airport for this nationally significant infrastructure project. This is based on the current configuration for the red line area as illustrated in, for example, Figure 2.3: LLAL Proposed and Consented Airport Infrastructure (Drawing reference: LADCO-3B-ARP-00-00-DR-YE-0004), of the environmental impact assessment scoping report volume 2 figures March 2019. The major accident hazard pipeline is HSE Ref. No.: 7527 TRANSCO Index No.: 1786 Pipeline Operator: Cadent Gas Ltd Pipeline/Location Name: Vauxhall motors spur (1TOE)	The existing Prax fuel pipeline has been considered as part of the assessment within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02])
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015. Hazardous Substances Consent would be required if the site is intending to store or use any of the Name Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations. Further information on HSC should be sought from the relevant Hazardous Substances Authority.	Noted. The Proposed Development will apply for Hazardous Substances Consent following detailed design, prior to bringing any hazardous substances to site.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development;s vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 An Annex on the Planning Inspectorate's website - Annex G -The Health and Safety Executive. This document includes consideration of risk assessments on page 3	The risk assessment referred to within the Advice Note 11, Annex G are to be completed post-consent as part of the COMAH consent application, detailed design development and the health and safety risk assessment of the lead contractor.
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	There is a licensed site in the vicinity of that part of the development around J10 of the M1. The nature of the development is such that we do not expect there to be significant interaction.	Noted. Explosions at neighbouring sites have been considered within <b>Section 15.9 of Chapter 15</b> of the ES [TR020001/APP/5.01] and the ERR ( <b>Appendix 15.1</b> of the ES [TR020001/APP/5.02]).
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	No comment, from a planning perspective	No further response required. This comment is for information purposes only.
Appendix 2	Health and Safety Executive	Major Accidents and Disasters	Please send any further electronic communication on this project directly to the HSE's designated email account for NSIP applications. Alternatively any hard copy correspondence should be sent to Mr Dave Adams (MHPD) NSIP Consultations 1.2 Redgrave Court Merton Road Bootle, Merseyside L20 7HS	No further response required. This comment is for information purposes only.
<b>Noise and Vibration</b>				
4.5.1	Planning Inspectorate	Noise and Vibration	An assessment of road traffic vibration has been scoped out on the basis that the condition of road surfaces on the majority of the highway network is outside the scope of the Proposed Development and only localised junction improvements are proposed. It is unclear whether this includes construction traffic that may be utilising the existing road network. In the absence of information on the type and nature of the road traffic, the Inspectorate <u>cannot agree to scope out this matter</u> . The Inspectorate considers that an assessment of vibration effects arising from construction vehicles on the existing road network should be provided as part of the ES, in line with the methodological approach set out in the Design Manual for Roads and Bridges (DMRB).	A qualitative assessment of construction traffic vibration has been undertaken in line with the methodological approach set out in the Design Manual for Roads and Bridges (DMRB), see <b>Section 16.9 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
4.5.2	Planning Inspectorate	Noise and Vibration	Operational vibration is scoped out on the basis that on-site sources of vibration such as road and air traffic activity are not expected to generate appreciable vibration on well-maintained surfaces and that the distance is considered to be sufficient that vibration will be ground attenuated to a level that is not appreciable. The Scoping Report contains limited information with regards to potential sources of operational vibration or the location of sensitive receptors. The Inspectorate is therefore <u>unable to scope this matter out</u> . The ES should include an assessment of operational vibration, where likely significant effects could occur.	A qualitative assessment of operational vibration has been undertaken and is presented in <b>Section 16.9 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
4.5.3	Planning Inspectorate	Noise and Vibration	Reference is made to the Civil Aviation Act 2006, but not to the Civil Aviation Act 1982, which is still in effect, nor the later Civil Aviation Act 2012. All relevant aviation legislation should be considered within the assessment.	Relevant legislation, including the Civil Aviation Act 1982 and the Civil Aviation Act 2012, has been added to <b>Section 16.3 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].



ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.5.4	Planning Inspectorate	Noise and Vibration	The ES should clearly describe how the monitoring locations have been selected and the extent to which they are agreed with the relevant consultation bodies. The methodology used for the baseline noise surveys should be described in the ES and/or accompanying technical appendices. The baseline year and the baseline noise monitoring year should be consistent.	Details of noise monitoring locations are described in <b>Section 4 of Appendix 16.1</b> of the ES [TR020001/APP/5.02], and how they have been agreed with relevant stakeholders is presented in <b>Section 16.4 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].  The baseline monitoring was undertaken predominantly in 2019 and 2020 (pre covid restrictions) and this is consistent with the baseline year of 2019. See <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01] for how the baseline has been defined.
4.5.5	Planning Inspectorate	Noise and Vibration	The Inspectorate notes the study area for the aircraft noise assessment is yet to be defined. The ES should describe the study area used for the impact assessment and this must be clearly defined and justified in the ES. The Inspectorate considers that the study area should include the Chilterns Area of Outstanding Natural Beauty (AONB) where relevant, including the potential for cumulative noise impacts with other airport development.	The study area used in the impact assessment has been defined and justified in the ES ( <b>Section 16.3 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]).  The study area for the assessment of tranquillity on landscape receptors includes the Chilterns Area of Outstanding Natural Beauty (AONB), see <b>Chapter 14</b> Landscape and Visual of this ES [TR020001/APP/5.01].
4.5.6	Planning Inspectorate	Noise and Vibration	The Scoping Report states that the assessment of air noise will be undertaken based on existing flight paths, but also acknowledges that the ANPS states that the assessment of aircraft noise should be undertaken in accordance with the developing indicative airspace design, which may involve the use of appropriate design parameters and scenarios based on indicative flight paths. Paragraph 10.4.11 states that London Luton Airport may be a significant beneficiary of airspace redesign, based on one optimised scenario. The ES should ensure that it presents an assessment of the realistic worse-case scenarios for the Proposed Development, including consideration of any airspace change implications for the noise assessment and the introduction of performance-based navigation. The assumed Air Traffic Movements (ATM) should be clearly stated for all assessment scenarios. Furthermore, a WebTAG analysis to value and compare the noise impact of these options should be provided consistent with the requirements of the Air Navigation Guidance 2017. When considering the introduction of quieter aircraft each year against growth in ATMs, the ES should clearly identify the worse-case scenario, noting that it may not necessarily be one of the years noted in Paragraph 10.5.5 of the Scoping Report.	As the airspace change process is still ongoing and will provide an assessment of potential noise impacts as part of the separate Airspace Change process, an analysis of noise effects (including a WebTAG analysis of airspace design options) due to airspace change has not been undertaken. The ongoing airspace change is not part of the Proposed Development.  The ES sets out how the assessment is a reasonable worst-case and identifies the worst-case scenario where the noise impacts are forecast to be highest (see <b>Section 16.4 and 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]).
4.5.7	Planning Inspectorate	Noise and Vibration	Footnote 163 of the Scoping Report refers to Paragraph 3.106 of this document; however, it is not apparent how this relates to the statement made in the Scoping Report. The ES should provide clear links to documents quoted, with accurate paragraph references, as necessary and appropriate.	Accurate references are provided in the ES.
4.5.8	Planning Inspectorate	Noise and Vibration	The Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL) are defined the text, however the UAEL has not been defined. The ES should define and assess UAEL for the Proposed Development.	UAEL values are presented in <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. A precautionary UAEL for air noise has been defined at 69dBLAeq,16h for daytime and 63dBLAeq,8h for night-time. No receptors are exposed to noise levels exceeding the UAEL.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.5.9	Planning Inspectorate	Noise and Vibration	It is unclear whether impacts to ecological receptors will be assessed in the noise assessment in addition to human receptors. The ES should clearly identify the sensitive receptors considered in the impact assessment and include cross-referencing between aspect chapters, as appropriate.	The impact on ecological receptors is covered in <b>Chapter 8</b> Biodiversity of the ES [TR020001/APP/5.01] which is cross-referenced from <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
4.5.10	Planning Inspectorate	Noise and Vibration	Consistent with BS5228 Table E1, the assessment of construction noise effects should also include criteria for weekends and Saturdays 07:00-13.00. Whilst Example Method 2 in BS5228 makes reference to durations of one month, or more in the consideration of significant effects, the criteria also include the caveat 'unless works of a shorter duration are likely to result in significant effect'. The duration of effect should not be applied as a blanket principle to rule out any likelihood of significant effect.	Criteria for weekends and Saturdays 07:00-13:00 have been included in <b>Table 16.11</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].  Duration of effect along with ambient noise conditions and number of receptors affected are considered to inform whether a significant effect is identified when construction noise levels result in an exceedance of the LOAEL.
4.5.11	Planning Inspectorate	Noise and Vibration	The text relating to vibration effects appears to mix peak particle velocity (PPV) and vibration dose value (VDV) as assessment criteria. The ES should distinguish between the vibration criteria for human receptors and those for buildings/structures. Relevant LOAEL and SOAEL criteria should be set out for both effects referencing relevant British Standards such as BS6472 and BS7385.	BS 6472 provides guidance on Vibration in terms of Vibration Dose Values (VDV). Section B.2 of BS 5228-2 states that: "for construction it is considered more appropriate to provide guidance in terms of the PPV, since this parameter is likely to be more routinely measured based upon the more usual concern over potential building damage". The PPV has been used to assess human disturbance due to construction vibration, which is in line with advice provided in BS 5228-2. BS 7385 contains advice on the potential for vibration induced building damage. Human disturbance typically occurs at levels significantly below those required for building damage. Where a likely significant vibration effect relating to human disturbance has been identified, an assessment of significance in terms of building damage will be undertaken. As no significant construction vibration effects are identified (Section 16.9 of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]) an assessment of building damage based on BS 7385 guidance is not required.
4.5.12	Planning Inspectorate	Noise and Vibration	The ES should assess noise impacts associated with increased train movements relating to the Proposed Development where likely significant effects could occur.	There are no plans to increase rail services specifically in response to the Proposed Development. Committed improvements (e.g. those relating to Thameslink 20/20 and the new East Midlands Trains Franchise) are included in the "Do Minimum" and "Do Something" scenarios.
4.5.13	Planning Inspectorate	Noise and Vibration	The ES should assess on-site noise emissions from fixed plant relating to the Proposed Development where likely significant effects could occur. Static sources should be assessed using BS4142: 2014 Methods for rating and assessing industrial and commercial sound.	A methodology has been defined in <b>Section 16.5</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01] that will avoid significant noise effects from fixed plant through a requirement to design plant to comply with specified noise level criteria during the detailed design that will take place post-consent. The criteria have been defined following guidance in BS4142.
4.5.14	Planning Inspectorate	Noise and Vibration	The ES should set out the Applicant's noise insulation policy, justifying any change from existing provisions. The policy should explain how it addresses the proposed policy changes set out in 'Aviation 2050: The future of UK aviation. A consultation.' The list of mitigation omits discussion of how embedded measures such as Fixed Electrical Ground Power and use of electrical vehicles can reduce emissions of noise.	Full details on the proposed noise insulation schemes are presented in the <b>Draft Compensation Policies, Measures and Community First</b> document submitted with the application for development consent [TR020001/APP/7.10].  Embedded mitigation measures, which include the use of Fixed Electrical Ground Power Units, are detailed in <b>Section 16.8</b> and additional mitigation measures are detailed in <b>Section 16.10</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].  The approach to electric vehicles in the assessment is described in <b>Section 16.6</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].

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4.5.15	Planning Inspectorate	Noise and Vibration	The Scoping Report proposes that a bespoke noise envelope will be developed to provide a mechanism to manage noise impacts. The relationship between the existing noise envelope and the proposed noise envelope must be set out in the ES and the basis for any departure from the established noise envelope must be fully justified. The ES should explain how the Noise Envelope Design Group provides continuity with existing noise controls at the airport and justify the need for any departures from the conditions of the existing operating consent.	A Noise Envelope Design Group has been established to provide recommendations on the contents of the Noise Envelope. Whilst the existing noise controls have not been formalised as a Noise Envelope, there are noise contour limits, movement limits and quota count limits currently in place, which will be superseded by the noise controls in the proposed Noise Envelope. The details of the Noise Envelope, including how aspects of the existing noise controls have been updated, are provided in the <b>Green Controlled Growth Explanatory Note [TR020001/APP/7.07]</b> . The ANPS defines a noise envelope as more than just setting constraints but also how the benefit of any improvements in aircraft technology will be shared between the airport and affected communities.  Further information on the Noise Envelope is provided in <b>Section 16.8 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]</b> .
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Noise and Vibration	It is unlikely that any parts of North Buckinghamshire (with the possible exception of Dagnall) will fall within the study area defined by extent of LOAEL (10.4.9), therefore all impacts will be scoped out of the report. There is evidence to suggest that annoyance and health effects can occur below the proposed LOAEL levels, indeed WHO 'strongly recommends' reducing aircraft noise to below 40dB <sub>L</sub> night. We also are concerned that limiting the study area to the extent of LOAEL will miss potential impacts where there is interaction with aircraft from other airports. Parts of north Buckinghamshire are regularly overflown by flights from Heathrow (particularly Wendover and Pitstone areas) and the combination of increased Luton flights and these other overflights will potentially lead to problems which will be missed in the Environmental Statement (ES). Based on this we would suggest that the scope of the study area should be extended to at least 3dB below LOAEL and other metrics, e.g. N60/65 and overflights should be used in these areas to determine significance of effects.	The assessment of air noise has been undertaken based on the LOAELs defined in Government noise policy. Although the dose-response relationship in the new WHO Guidelines is not currently adopted in UK policy, sensitivity testing using the relevant updated relationships in the WHO guidelines has been undertaken and is presented in <b>Chapter 13 Health and Community of this ES [TR020001/APP/5.01]</b> . Potential cumulative impacts for airspace outside the Lowest Observable Adverse Effect Level (LOAEL) and up to 7,000ft will be assessed through the Airspace Change Proposals if there are anticipated to be any cumulative impacts between Luton and Heathrow. This will be the subject of a separate consultation exercise by the airport operator, LLAOL, following the Civil Aviation Authority (CAA) airspace change procedure (CAP1616), in due course.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Noise and Vibration	10.4.13. We understand the importance of the design of Luton airspace and the wider UK airspace in controlling noise, however, it seems unlikely that these re-designs will be confirmed in time for the production of this ES. On this basis the ES should primarily be based on current flight paths. As with future aircraft design, sensitivity testing should be applied to potential changes in impacts that could arise out of airspace changes. Potential significant effects should not be scoped out on the basis of airspace changes unless these changes are confirmed at the time of writing the ES.	The air noise assessment is based on current flight paths; however, a sensitivity test has been undertaken to demonstrate that proposed future airspace changes are expected to be accommodated within the proposed Noise Envelope. The sensitivity test is presented in <b>Section 12 of Appendix 16.1 Noise and Vibration Information of the ES [TR020001/APP/5.02]</b> and summarised in <b>Section 16.9 of Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]</b> .
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Noise and Vibration	Tables 10-3,10-4. It is our view that any change that resulting in exposure exceeding SOAEL should be classified as a high magnitude of impact on the basis that it will by definition result in a significant effect. Where existing noise levels are above SOAEL we would suggest that any increase of more that 3dB(A) would be a high impact, 2-2.9 Medium and 1-1.9 Low.	The magnitude of impact is not the only means of determining whether an effect is significant or not. Due to the increased effect upon health and quality of life to receptors that experience noise levels exceeding the SOAEL, a significant effect is more likely due to smaller changes in noise than at receptors that are predicted to experience noise levels below the SOAEL. Therefore, a significant effect may occur at these receptors experiencing noise levels exceeding the SOAEL for a change in noise of 1 dB or more.

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Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Noise and Vibration	10.5.25. Given the seasonal nature of Luton flights we welcome predictions (and therefore definition of LOAEL 10.5.28) being based on average mode summer day and night contours.	Acknowledged. No further response or action required.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Noise and Vibration	In determining whether or not a significant effect is being produced as well as noise change (10.5.22) and additional metrics (10.5.33) some consideration need to be given to the size of the population impacted by the noise change. A 3dB change affecting 10 people is less significant than a 3dB change effecting 1000. Significant effects could occur below the level of SOAEL and should not be scoped out.	Discussion with the Noise Working Group was undertaken regarding population when determining a significant effect. Whilst consideration of population may be a reasonable approach for an airport with surrounding densely populated areas, it was agreed that areas around the airport are not sufficiently densely populated to warrant any further consideration of population when defining significant effects.
Appendix 2	Civil Aviation Authority	Noise and Vibration	20. With reference to paragraph 10.4.11 we are unable to reconcile the statements made with the footnoted reference 163 to paragraph 3.106 of Aviation 2050 the Future of UK Aviation. This makes no mention of NATS or noise reduction; some further clarity is sought from the applicant on this. 21. With reference to paragraph 10.5.5, EIA Regulations require assessment of the year of maximum effect. In the case of airports with quieter aircraft being introduced each year, set against growth in air traffic movements, the year of maximum effect may not be one of the years indicated for assessment and may be an intermediate year.	Reference 163 should be: Q4 of Appendix A – Department for Transport (2018), Airspace Modernisation Supporting Document. Available at: <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/763085/nats-caa-feasibility-airspace-modernisation.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/763085/nats-caa-feasibility-airspace-modernisation.pdf</a>  The assessment of air noise includes intermediate years to identify the worst-case impact.
Appendix 2	Chilterns Conservation Board	Noise and Vibration	It is unclear from Figure 10.1 showing noise monitoring locations whether these are existing or proposed new noise monitoring locations. It is difficult to comment on the adequacy of these locations without information being provided on likely flightpaths. Without this, they could be in the wrong place.	These are noise monitoring locations and are based on existing flight paths. Noise monitoring locations have been discussed and agreed with The Noise Working Group.
Appendix 2	Chilterns Conservation Board	Noise and Vibration	On Figure 10.1 noise monitors are shown within the Chilterns AONB villages of Dagnall and Jockey End, but none further west e.g. around Tring, and none at key visitor destinations like the National Trust's Ashridge Estate, Ivinghoe Beacon, the Dunstable Downs, Sharpenhoe Clappers, and Galley and Warden Hills. This shows a bias towards residential effects in villages, and little regard to assessing the impact on visitors. As a nationally protected landscape on the doorstep of London and many large settlements, the tranquillity of the Chilterns AONB is of national importance, not just to residents, but visitors and tourists too. The assessment should give weight to the AONB as a national asset and recognise that people walking, running, cycling, riding or volunteering in the AONB are likely to be outside and seeking peace, so are especially noise sensitive. The EIA should assess where people visit for leisure time and when people are more likely to be outdoors in the Chilterns Area of Outstanding Natural Beauty (AONB). It would be informative to map areas for existing ambient noise levels and ensure that quiet areas of protected countryside remain as quiet as possible, recognising their importance for quiet recreation, health and wellbeing. We note that CAP1616 guidance requires that specific attention is given to tranquillity of AONBs.	The position of noise monitoring terminals are the responsibility of the airport operator, London Luton Airport Operations Ltd (LLAOL). LLAOL have developed a protocol for determining a suitable location of their portable monitors. When deciding on a location their main aim is to achieve an equitable geographical spread around the airport so that as many communities as possible are included in the monitoring programme. The impact of noise (amongst other factors) on tranquillity for landscape receptors, including the Chilterns AONB is assessed in <b>Chapter 14</b> Landscape and Visual of the ES [TR020001/APP/5.01].

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Appendix 2	Public Health England	Noise and Vibration	We have provided specific comments on noise in Appendix A.	Specific consultation has been undertaken with Public Health England (now the UK Health Security Agency) and is detailed in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	St Albans Council	Noise and Vibration	In respect of the Noise and Vibration chapter, the Council notes that the geographical area for noise assessment and monitoring will be agreed in consultation with the established Noise Working Group [NWG] which includes a representative from St Albans City & District Council. This approach is agreed and will require regular on-going meetings of the NWG.	St Albans District & City Council has representation in the Noise Working Group. Engagement with the Noise Working Group is detailed in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]
Appendix 2	St Albans Council	Noise and Vibration	The ES should consider all aspects of daytime and night time noise impacts, both from additional aircraft movements and also from additional road traffic noise, including those roads referred to above together with the new proposed road infrastructure.	Noise from increased aircraft movements during the day and night periods along with surface access noise impacts during the daytime and night-time are assessed in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	Moreover, the SR may need to consider the policy context applicable in authorities beyond the host authorities themselves, if significant environmental effects arise in adjoining authorities through, for example, the increase in ATMs. We note that the study area for noise is yet to be defined and cannot be until noise modelling is undertaken. The increase in ATMs and associated noise may give rise to impacts on, for example, biodiversity, designated heritage assets, landscape and health in other authorities. In this case, the SR should consider relevant policies applying to those areas.	Relevant national and local policies have been used to assist the assessment process. The study area for air noise has been defined considering guidance within Air Navigation Guidance, which states: "Below 4,000 feet, there is a strong likelihood that aircraft could create levels of noise exposure above the LOAELs identified above, which is reflected in the Altitude Based Priorities". In addition, the daytime and night-time LOAEL air noise contours for the assessment scenarios have been referenced to define the study area. The study area for each noise source is detailed in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. Refer to <b>Chapter 8</b> Biodiversity [TR020001/APP/5.01] – for likely significant effects of noise and vibration on protected species. Refer to <b>Chapter 10</b> Cultural Heritage [TR020001/APP/5.01] – for the effects of noise and vibration on the setting of heritage assets, such as listed buildings and scheduled monuments. Refer to <b>Chapter 14</b> Landscape and Visual [TR020001/APP/5.01] - for the contribution of noise to any change in the wider consideration of landscape and visual amenity (including as relevant tranquillity effects at the Chilterns Area of Outstanding Natural Beauty). Refer to <b>Chapter 13</b> Health and Community [TR020001/APP/5.01] - for the assessment of health effects which considers the noise effects identified in the noise assessment.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	LBC commissioned Cole Jarman to provide comments on the EIA Scoping on noise and their report is attached as Appendix 1 to this statement. LBC have used Cole Jarman since at least 2012 to inform the Council as LPA on airport related development including the increase to 18mppa and a number of s73 applications to vary noise conditions. Cole Jarman raise a number of issues and detailed points in response to the SR. The appendix should be seen as part of the response by the host authorities. A summary of the report is as follows.	Responses to specific points raised by Cole Jarman in their report are provided throughout this document ( <b>Appendix 1.4</b> [TR020001/APP/5.02]). The applicant has continued to engage with the Host Authorities noise consultants (formerly Cole Jarman, now Suono) throughout the DCO process.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	Professional judgement will be needed to identify the likely geographical extent of the study area, taking account of all noise effects including any that may occur below LOAEL. Definition of the study area for noise is clearly important for other topics.	The study area for air noise has been defined considering guidance within Air Navigation Guidance, which states: "Below 4,000 feet, there is a strong likelihood that aircraft could create levels of noise exposure above the LOAELs identified above, which is reflected in the Altitude Based Priorities". In addition, the daytime and night-time LOAEL air noise contours for the assessment scenarios have been referenced to define the study area.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	At some time up to the anticipated capacity of 32mppa, the combination of number and mix of aircraft will lead to community noise levels reaching their highest value. We would expect the assessment to be able to identify and quantify this maximum effect.	The maximum effect of noise will be identified through assessment of different phases of development through the project lifespan. These assessment phases cover assessment scenarios for 21.5 mppa, 27 mppa and 32 mppa (project capacity). The noise impacts are forecast to be highest at 32 mppa in assessment Phase 2b and this is confirmed in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	We consider that better definition is required on how construction noise and vibration effects will be assessed (as noted in Section 2.0 above, much greater detail on construction will be necessary).	The construction noise and vibration assessment methodology and details on the assessment are set out in <b>Appendix 16.1</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	The proposed methodology for assessing the significance of changes in noise depending on the ambient noise levels contains some inconsistencies and requires, in our view, some refinement.	The methodology for assessing the magnitude of impact due to a change in an existing noise source has been updated in line with current industry best practice, see <b>Section 16.5</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	The proposed noise assessment metrics are not complete. There is additional information that should be provided and additional metrics that should be assessed.	The LAeq,T metric is used as the primary assessment metric in line with aviation noise policy and guidance from the Civil Aviation Authority which states that "evidence based decisions should continue to use LAeq,16h". However, supplementary noise metrics including N65 and N60 have been included in the noise assessment presented in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]. Information on these metrics, and how they have been used in the assessment, are provided in <b>Section 16.5</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	The description of how noise effects, especially significant noise effects, will be determined is incomplete and confusing. Section 5.3 of the Scoping Report provides a generic framework for the assessment of environmental effects and this has only been partially adopted into the noise section.	The methodology for assessing the magnitude of impact due to a change in an existing noise source has been updated in line with current industry best practice, see <b>Section 16.5</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	It is proposed to develop a bespoke noise envelope, even though a daytime and night-time noise envelope is already in place at Luton Airport and is set out in the Noise Action Plan (NAP). The relationship between current actual constraints and proposed future constraints should be made clear.	Whilst the existing noise controls have not been formalised as a Noise Envelope, there are noise contour limits, movement limits and quota count limits currently in place, which will be superseded by the noise controls in the proposed Noise Envelope. The details of the Noise Envelope, including how aspects of the existing noise controls have been updated, are provided in the <b>Green Controlled Growth Explanatory Note</b> [TR020001/APP/7.07].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	We would expect the noise assessment to include an evaluation of the benefits arising from a revised Noise Insulation Scheme (NIS). The one in place at present is not consistent with proposals set out by the government in Aviation 2050, currently out for consultation.	As part of the Proposed Development, the current air noise insulation scheme administered by the airport operator will be updated if development consent is granted. The updated noise insulation scheme improves on the current scheme and goes beyond the government proposals set out in Aviation 2050. Full details on the proposed noise insulation scheme are presented in <b>Draft Compensation Policies, Measures and Community First</b> [TR020001/APP/7.10].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration	In addition to the comments by Cole Jarman, we recognise and welcome the use of the Noise Working Group to discuss this matter further. The membership of this should be kept under review and given its importance to local communities, wider consultation with community groups on this issue should be fully recognised with engagement protocols discussed in the Statement of Community Consultation.	Engagement with the Noise Working Group and Noise Envelope Design Group has continued throughout the DCO process. The Noise Envelope Design Group contains representatives of local community groups. Wider consultation with local communities and the wider public has also been undertaken through public consultation as described in the <b>Consultation Report [TR020001/APP/6.01]</b> and <b>Consultation Report Appendices [TR020001/APP/6.02]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	Reference is made to the Air Navigation Guidance (October 2017), which provides guidance to the CAA on the implementation of the changes to airspace policy which became effective on 1 January 2018. However, not referenced is CAP 1616 Airspace design: Guidance on the regulatory process for changing airspace design including community engagement requirements (CAA, December 2017). This document is considered particularly relevant in the context of this section of the scoping report as it sets out, in Appendix B, the environmental metrics and assessment requirements. Technical Annex CAP 1616a summarises the metrics recommended for use in a study of this type.	CAP1616 has been referenced in <b>Chapter 16</b> Noise and Vibration of the ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	We would expect the scoping report to provide an indication of the extent of the study area for each of the noise sources to be assessed. While it is accepted that detailed noise modelling will not have been undertaken, that does not preclude the use of some expert judgement to identify what scale of effects are likely to arise and the areas that will be affected. There is a substantial amount of information available on the historic and forecast noise levels arising as a result of operations at Luton Airport and these could be used as a basis for defining in broad terms the study area. Without this information, it is not possible to judge whether all relevant noise sensitive receptors are likely to be covered by the assessment. 10.4.9 We agree with the principle that study areas should, as a minimum, encompass all areas within which operational noise is likely to be above the LOAEL. In the case of airborne aircraft noise, however, further information should be provided on how the noise study will respond to the requirements in Air Navigation Guidance 2017 that noise should be considered at levels of exposure below LOAEL and up to an altitude of 7,000 ft.	<b>Chapter 16</b> Noise and Vibration of the ES <b>[TR020001/APP/5.01]</b> includes a description of the noise and vibration study area, which has been agreed through consultation with the Noise Working Group. The study area for air noise has been defined considering guidance within Air Navigation Guidance, which states: "Below 4,000 feet, there is a strong likelihood that aircraft could create levels of noise exposure above the LOAELs identified above, which is reflected in the Altitude Based Priorities". In addition, the daytime and night-time LOAEL air noise contours for the assessment scenarios have been referenced to define the study area. The study area for the assessment of tranquillity on landscape receptors extends up to 7,000ft and includes the Chilterns Area of Outstanding Natural Beauty (AONB), see <b>Chapter 14</b> Landscape and Visual of this ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	It is noted that noise monitoring locations have already been agreed through consultation with the Noise Working Group and it is therefore naturally assumed that these are all located within the study area. There is therefore a contradiction in the proposition that the study area cannot yet be identified if the geographical extent of noise monitoring is already established.	Some assumptions of the likely extent of the Study Area were required so baseline noise monitoring could be undertaken within the project timescale. The study areas are now fully defined in <b>Chapter 16</b> Noise and Vibration of the ES <b>[TR020001/APP/5.01]</b> .

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	What is the rationale for setting 2017 as the Baseline Year? Will data not be available for 2018? Year of predicted maximum environmental effects At some time between the Baseline Year and operation up to the anticipated capacity of 32mppa, the combination of number and mix of aircraft will lead to community noise levels reaching their highest value. We would expect the assessment to be able to identify and quantify this maximum effect. The year in which this occurs will depend on the rate of uptake of new generation, low noise aircraft, replacing older, noisier variants. This rate of uptake will be determined by the aircraft operators and not by Luton Airport and is therefore ultimately outside LLAL's direct control. This is an important reason for ensuring that appropriate sensitivity checks based on varying rates of new generation aircraft uptake must be carried out, yet it has not been included within the operational assessment scenarios.	Since the scoping report, the baseline year has been updated to 2019. This year represents the last year of normal activity at the airport pre-Covid pandemic. Although it is acknowledged that, in 2019, existing noise contour limits were exceeded for both day and night periods, the use of 2019 as a baseline is to identify if there will be any changes to health and quality of life from the last year of typical operating conditions. The use of the 2019 Actuals baseline is also in line with the Scoping Opinion that notes at 4.5.4 that "The baseline year and the baseline noise monitoring year should be consistent". The baseline monitoring (field measurements to inform noise model validation and characterisation of existing environment) was undertaken predominantly during 2019 and 2020. The assessment is based on a core case of expected growth in air traffic; however, sensitivity testing has been undertaken using faster and slower growth cases, which consider throughput being achieved earlier or later than the core case to account for any uncertainties in forecasting. See <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01] for more information on the assessment baseline ( <b>Section 16.7</b> ) and sensitivity tests ( <b>16.9</b> ).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	Table 10-1 is incomplete. Although the ABC method defined in BS 5228 1:2009+A1:2014 is proposed to be used for the assessment of construction noise, no definition is given for the threshold values that define category B. In addition, the use of the day, evening and night periods to control construction noise to acceptable levels is not consistent with the approach normally used at construction sites in the UK as required by many Local Planning Authorities: - Day: Weekdays (07h00 to 19h00) and Saturdays (07h00 to 13h00); □ Evening: Weekdays (19h00 to 23h00), Saturdays (13h00 to 23h00) Sundays and Bank Holidays (17h00 to 23h00); - Night: Weekdays, Weekends and Bank Holidays (23h00 to 07h00). 10.5.13 The preceding paragraph identifies that vibration generated by construction activity will be assessed using the Peak Particle velocity (PPV), which for assessment of this type is normally expressed in mm/s. However, it is proposed to set LOAEL and SOAEL thresholds in terms of Vibration Dose Value (VDV), which is a quite different measure of vibration that takes into account both level and duration of the vibration after it has been frequency weighted. VDV is defined in BS 6472-1:20081 and is expressed in the units m/s <sup>1.75</sup> . It is therefore erroneous to refer to the LOAEL as being 0.3mm/s, as this more likely refers to a measure of PPV: the same can be said the SOAEL value of 1.0mm/s. Furthermore, if it is indeed proposed to use PPV as a means of defining the LOAEL and SOAEL thresholds, justification for these values needs to be provided.	Criteria for weekends and Saturdays 07:00-13:00 have been included in <b>Table 16.11</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. Section B.2 of BS 5228-2 states that: "for construction it is considered more appropriate to provide guidance in terms of the PPV, since this parameter is likely to be more routinely measured based upon the more usual concern over potential building damage". The PPV has been used to assess human disturbance due to construction vibration, which is in line with advice provided in BS 5228-2. Justification for the choice of construction LOAELs and SOAELs are provided in <b>Section 16.4</b> of <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	The Scoping Report is not clear on what standards noise from engine ground running when under test should be assessed against, and this needs to be clearly defined. Some recent assessments of this particular ground noise source at airports have categorized it as a fixed source that should be assessed in accordance with BS 4142:2014.	Engine ground running is considered to be a source of ground noise. As this is an existing activity, it has been assessed as a change in noise in the ground noise assessment in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	<p>The concept of assigning greater significance to changes in noise level where ambient noise levels are already high is not new and there is some justification for adopting such an approach in principle. However, we have a number of comments about the magnitude of impact criteria set out in Tables 10-3 and 10-4:</p> <ul style="list-style-type: none"> <li>- It is not clear why daytime and night-time periods should be treated differently. If this is a considered approach to the issue, reasons why daytime noise changes at high ambient levels are more significant than night-time changes at high ambient levels need to be provided;</li> <li>- Changes only in a positive sense (i.e. noise levels only increase) are considered. If the proposals lead to noise level reductions (which might result if future aircraft are substantially quieter than current aircraft), does the logic still apply?</li> <li>- The proposals lead to potentially anomalous conclusions. For example, is it really the case that a 5dB increase in air noise levels from 58 to 63 is a high impact whereas a 9dB increase from 53 to 62 is only a medium impact? The resulting noise levels will be barely indistinguishable between the two cases, yet the much higher increase in noise is still rated as lower impact.</li> </ul> <p>10.5.22 This binary approach to defining the magnitude of impact resulting from noise level changes based on a cliff edge transition at the SOAEL is not fully capable of capturing the nuances of how noise level and noise level change fully interact to give rise to quantifiable effects. Further comments are made on the assessment of effects in relation to paragraph 10.5.42 below.</p>	<p>The methodology for assessing the magnitude of impact due to a change in an existing noise source has been updated in line with current industry best practice, see <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	<p>Reference is made to Table 10-5 which defines values for the SOAEL for airborne aircraft noise. It also defines values for the LOAEL. We do not disagree with the values proposed. However, no reference is made to UAEL (Unacceptable Adverse Effect Level), which also defined in government policy and is an important concept in that noise effects on people at this level are to be prevented from occurring. Significant effects on health and quality of life must be identified in line with government noise policy. In this regard it is important to distinguish the actions that should be taken to prevent this level of effect from occurring (UAEL) from those that should be taken to avoid the significant adverse effects from occurring (SOAEL).</p>	<p>Precautionary UAELs have been defined for each noise source (see <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]). No receptors are exposed to noise levels exceeding the precautionary UAEL.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	<p>For the N65 (daytime) and N60 (night-time), the Scoping Report should state the values at which the contours will be plotted.</p> <p>It is noted that consideration will be given to providing LAeq,T contours for periods outside those defined in UK policy. In our view, the Scoping Report should commit to providing the following information as a minimum:</p> <ul style="list-style-type: none"> <li>Movements for each assessment year (including the year of highest noise levels) during the Night Quota Period, allowing the QC values to be determined in each case. Luton Airport currently operates under a condition that limits the QC value during the Night Quota Period and it should be assumed this will or may be retained over the assessment period;</li> <li>- Movements for each assessment year (including the year of highest noise levels) during the early morning (06h00 to 07h00) and late evening (23h00 to 23h30) shoulder periods, allowing the QC values to be determined in each case. Luton Airport currently operates under a condition that limits the QC value during the early morning shoulder period and it should be assumed this will or may be retained over the assessment period;</li> <li>- Information on the hourly pattern of movements for each assessment year (including the year of highest noise levels) over the 24-hour operating day. While the aggregate 16-hour daytime and 8-hour night-time metrics are recognised as correlating most closely with overall community response, it is also important to determine whether there are particular periods during which noise effects might be particularly acute, e.g. will receptors currently benefiting from noise respite during certain periods of the day continue to benefit from such respite as the number of movements increases? Assessment and commentary should be provided as required to enable changes in the pattern of noise levels to be evaluated over the assessment period.</li> </ul>	<p>Justification for the choice of noise metrics is provided in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. The LAeq,T metric is used as the primary assessment metric in line with aviation noise policy (Ref 6) and guidance from the Civil Aviation Authority (Ref 7) which states that "evidence based decisions should continue to use LAeq,16h". However, supplementary noise metrics (including overflights, Lmax, Numbers above and awakenings) have been included in the noise assessment presented in <b>Chapter 16</b> Noise and Vibration of the ES.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	<p>Is it proposed to use Lmax outputs only to assess potential sleep disturbance during the night time period? Daytime Lmax values are also instructive when considering the full range of impacts on noise sensitive receptors such as schools. It should be noted that the following assessment metrics referred to in CAP 1616, required by current policy or used in best practice assessments of aircraft noise changes resulting from this type of application are not proposed to be undertaken:</p> <ul style="list-style-type: none"> <li>- Lden and Lnight: it is required to determine the number of people exposed to airborne aircraft noise at different values of each of these indices in order to determine health effects arising. Carrying out a WebTAG analysis requires an assessment using these two indices;</li> <li>- % Highly Annoyed: changes in the number of people highly annoyed by airborne aircraft noise are derived from population counts within the various daytime and night-time LAeq,T contours. These should be tabulated as part of the assessment so that changes over the assessment period can be quantified;</li> <li>- Difference contours: required to be plotted in bands, typically from ± 1-2 dB to ± &gt;9 dB.</li> </ul>	<p>Justification for the choice of noise metrics is provided in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. The LAeq,T metric is used as the primary assessment metric in line with aviation noise policy (Ref 6) and guidance from the Civil Aviation Authority which states that "evidence based decisions should continue to use LAeq,16h". However, supplementary noise metrics (including overflights, Lmax, Numbers above and awakenings) have been included in the noise assessment presented in <b>Chapter 16</b> Noise and Vibration of the ES. Difference contours have been provided. An assessment of % high annoyance has been undertaken using the WebTAG methodology and is presented in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].</p>

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	Table 10-2 defines values for the LOAEL and SOAEL for road traffic noise. Paragraph 10.5.36 identifies that these values are also used for the assessment of aircraft ground noise. We do not disagree with the values proposed, and note their origins in the WHO Community Guidelines 1999. However, no reference is made to UAEL. No distinction is made between noise generated by aircraft on the ground during the course of their normal day to day operations and those generated by engines under test at the relocated engine test bay. These are noise sources that lend themselves to assessment against different criteria and which are subject to quite different forms of mitigation. We would expect the Scoping Report to identify how these distinctions will be made.	Precautionary UAELs have been defined for each noise source (see <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]). No receptors are exposed to noise levels exceeding the precautionary UAEL. Although air and ground noise (including engine testing) both originate from aircraft, it is recognised that the nature of noise is different from aircraft when they are in the air and on the ground (for example direction and duration). There is no specific guidance on how ground noise should be assessed; however, there is considered to be a sufficient link between assessing the effects of air and ground noise due to the emissions originating from the same source. Consequently, in the absence of any specific guidance for ground noise, the LOAEL and SOAEL for air noise are considered applicable to ground noise.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	PART 1: The description of how noise effects, especially significant noise effects, will be determined is incomplete and confusing. Reference is made to Section 5.3 of the Scoping Report which provides a generic framework for the assessment of environmental effects and this has only been partially adopted into the noise section. For example, Table 10-6 is a noise specific version of Table 5-3 and Table 10-5 is purported to set out the noise specific version of Table 5-5, but it does not. The Scoping Report must set out a clear methodology for assessing noise effects that takes properly into account: - The magnitude of the change in noise exposure for the various noise sources being assessed using the relevant primary metrics LAeq,16h (for daytime) and LAeq,8h (for night-time) and by reference to an agreed definition of the scale of change (we have identified concerns with the values set out in Tables 10-3 and 10-4); - The levels of noise to which the community will be exposed for the various noise sources being assessed, by reference to the relevant LOAEL, SOAEL and UAEL values using the relevant primary metrics LAeq,16h (for daytime) and LAeq,8h (for night-time); - The size of the population exposed to noise at different levels from the various noise sources being assessed, and identifying the number of people highly annoyed by the particular source.	The methodology for assessing the magnitude of impact due to a change in an existing noise source has been updated in line with current industry best practice, see <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. The LAeq,T metric is used as the primary assessment metric in line with aviation noise policy (Ref 6) and guidance from the Civil Aviation Authority which states that "evidence based decisions should continue to use LAeq,16h". However, supplementary noise metrics (including overflights, Lmax, Numbers above and awakenings) have been included in the noise assessment presented in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. An assessment of noise and health effects has been undertaken using the WebTAG methodology and is presented in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	PART 2: Other factors that will need to be factored into an overall determination of the significance of the effects arising from the various noise sources being assessed are: - The implications of the N65 (daytime) and N60 (night-time) contours in terms of the number of people exposed to high, medium or low numbers of over-flights and how these might change as a result of the DCO; - The number of people who may experience sleep disturbance from aircraft flyover noise and how this will change as a result of the DCO; - The monetised value of the noise effects using the WebTAG analysis; - The implications of changes to the number of overflights experienced by noise sensitive receptors exposed to noise levels below LOAEL; Changes to the pattern of noise exposure during different parts of the 24-hour day, and whether any benefits currently accruing from respite from noise during the quieter parts of the day are likely to be eroded at the number of daily movements increases. Another factor that will influence the final assessment of noise effects is the nature and extent of any sound insulation scheme that might be offered by the airport to mitigate noise effects within buildings. Further discussion of this point is set out under Section 10.8 Mitigation.	The methodology for assessing the magnitude of impact due to a change in an existing noise source has been updated in line with current industry best practice, see <b>Section 16.5 of Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. The LAeq,T metric is used as the primary assessment metric in line with aviation noise policy (Ref 6) and guidance from the Civil Aviation Authority which states that "evidence based decisions should continue to use LAeq,16h". However, supplementary noise metrics (including overflights, Lmax, Numbers above and awakenings) have been included in the noise assessment presented in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01]. An assessment of noise and health effects has been undertaken using the WebTAG methodology and is presented in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	It is suggested that, depending on the nature and extent of the impact, a number of mitigation measures that are not covered in LTN's Noise Action Plan (NAP) may be adopted. The discussion in the following chapters centre on the use of a bespoke noise envelope, even though a daytime and night-time noise envelope is already in place at Luton Airport and is set out in the NAP. This is not, therefore, a new initiative linked to the DCO and should not be presented as such. 10.8.6 It is proposed to set up Noise Envelope Design Group (NEDG) whose remit sounds like it may be 'reinventing the wheel'. Most of the provisions the group is expected to discuss and develop are already in place for the noise envelopes that are defined by Condition 10 of the current operating consent. Unless there are compelling reasons to alter the approach, we would expect most if not all of those provisions to apply to noise envelopes required for the DCO.	
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration	We would expect the noise assessment to include an evaluation of the benefits arising from a revised NIS. The one in place at present and referred to in the NAPS was developed on the basis of Government policy which is expected to be superseded pending the results of the Aviation 2050 consultation process. In our view the Scoping Report should be proactive on this point, committing to a full evaluation of a revised scheme that conforms to the new government proposals, including: - Establish new measures to improve noise insulation schemes for existing properties, particularly where noise exposure may increase in the short term or to mitigate against sleep disturbance; - Extend the noise insulation policy threshold being the current 63 dB LAeq,16h to 60 dB LAeq,16h; - Require all airports to review the effectiveness of existing schemes. This should include how effective the insulation is and whether other factors (such as ventilation) need to be considered, and also whether levels of contribution are affecting take up; For airspace changes which lead to significantly increased overflight, to set a new minimum threshold of an increase of 3 dB LAeq, which leaves a household in the 54 dB LAeq,16h contour or above as a new eligibility criterion for assistance with noise insulation; - Engaging with ICCAN and adopting any new guidance that it develops on best practice for noise insulations schemes around airports, to improve consistency across the industry.	The noise insulation scheme has been fully revised and improves on the current scheme and goes beyond the government proposals set out in Aviation 2050, with eligibility for schemes going down to 54dB LAeq,16h. Full details on the proposed noise insulation scheme are presented in <b>Draft Compensation Policies, Measures and Community First</b> submitted as part of the application for development consent [TR020001/APP/7.10].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration Health and Community	Will the impacts of noise on health be quantified within the ES Noise chapter or will they be included within Chapter 15 Health? Will a separate Health Impact Assessment form part of the application? It should be noted that if the ES is to include an assessment of alternative airspace design options, even if only at draft stage pending subsequent detailed analysis by the CAA, the Air Navigation Guidance 2017 document requires that a WebTAG analysis is undertaken to value and compare the noise impact of these options.	The quantitative assessment of health effects from air noise will be reported within the Health and Community section of the ES. A separate HIA is not proposed. The health assessment methodology is akin to that used in a stand-alone HIA. The assessment approach is based on HIA guidance provided by HUDU, WHIASU and the IAIA. It is based on a wider model of health that looked at potential impacts on the social determinants of health. It will include an evidence review, and consideration of health inequalities/effects on vulnerable groups.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix A	Noise and Vibration Airspace / Aviation Regulation	<p>The redesign of airspace affecting operations at Luton Airport will not be completed until 2024, and as a result the assessment of air noise will be undertaken based on existing flight paths. Can it be confirmed that air noise modelling of all flight paths will include proper consideration of Performance Based Navigation (PBN) flight paths?</p> <p>Adoption of PBN enhances navigational accuracy and allows aircraft, particularly on departure, to fly on tracks that incorporate a much smaller degree of dispersion. This results in a greater degree of control over which areas are overflown and which are avoided and therefore has the potential to reduce the number of people affected by aircraft noise. PBN also offers increased options for the establishment of noise respite/relief routes. On the other hand, concentrating flights over specific areas can lead to a greater noise impact in those areas and may influence the extent and nature of the mitigation or compensation to be provided.</p> <p>It is indicated that "NATS states that LTN may be a significant beneficiary of airspace redesign through the suggestion that the 55dB noise contour may reduce by 28%". The reference for this statement is incorrect, as paragraph 3.106 of Aviation 2050 deals with another matter entirely (the sensitivity of the public to noise and the recently published WHO Environmental Noise Guidelines 2018).</p>	<p>As the airspace change process is still ongoing and will provide an assessment of potential noise impacts as part of the separate Airspace Change process, an analysis of noise effects due to airspace change has not been undertaken. However, a sensitivity test has been undertaken to demonstrate that airspace changes can be accommodated within the Noise Envelope Limits defined in the Green Controlled Growth Explanatory Note [TR020001/APP/7.07]. This sensitivity test is presented in Chapter 16 Noise and Vibration of the ES [TR020001/APP/5.01].</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	<p>Table 1: Summary of proposed scope of the assessment</p> <p>Under 'Noise and vibration' no reference is made to train operations on the proposed extension to the DART line.</p> <p>The 10th bullet point of paragraph 1.1.5 identifies that one element of the proposed development is an extension to the Luton Direct Air to Rail Transit (DART) to the new terminal.</p> <p>No assessment of noise and vibration will be required if the associated additional train movements will only give rise to effects wholly within the airport boundary. If, on the other hand, any noise sensitive receptors are at risk of being affected we would expect this element to be scoped into the study.</p>	<p>The DART extension will be within the site boundary and will not affect noise sensitive receptors, the nearest of which is approximately 400m away. Noise emissions due to construction activities are detailed in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01].</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	<p>Reference is made in the first paragraph to key sensitive receptors; it would be helpful at this stage to distinguish between residential and non-residential receptors and how degrees of sensitivity will apply. No reference is made to designated 'quiet areas' that may be affected by the proposals. If there are such areas within the study area, designated under the Environmental regulations (England) 2006 (as amended), it is appropriate to identify them.</p>	<p>Receptors are defined in <b>Table 16.7 of Chapter 16</b> of the ES [TR020001/APP/5.01] as follows:</p> <p>Residential receptors - people, primarily where they live ('residential receptors'), in terms of individual households, nursing homes and care homes and on a wider community basis. This includes any shared community open areas (e.g. parks) as well as private open space (e.g. gardens). Assessment of these receptors also includes consideration of 'relative tranquillity' (see methodology in <b>Section 16.5 of Chapter 16</b> of the ES [TR020001/APP/5.01]). 'Shared community open areas' are those identified by PPGN that may partially offset noise impacts experienced by people in their households that are either a) a relatively quiet, protected, nearby external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings or b) a relatively quiet, protected, external publicly accessible amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within a 5 minute walking distance).</p> <p>Non-residential receptors - Non-residential community facilities such as schools, hospitals, places of worship, and noise sensitive commercial properties (see <b>Table 16.18 of Chapter 16</b> of the ES [TR020001/APP/5.01] for examples), collectively described as 'non-residential receptors'.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	Reference is made to the Civil Aviation Act 2006, but not to the Civil Aviation Act 1982, which is still in effect, nor the later Civil Aviation Act 2012 which widened and modernised the powers available to the government to control noise at airports and also permitted airport operators to impose differential charges based on aircraft noise emission. Some relevant UK legislation is not referred to in this section: Airports Act 1986: giving powers to the Secretary of State (SoS) to regulate runway utilisation, allocate airport capacity and limit the number of occasions on which aircraft may land or take off. Aeroplane Noise Regulations 1999: dealing with noise certification for aircraft, referencing the noise limits issued by ICAO and restricting operations to properly certified aircraft. Transport Act 2000: enabling the SoS to prevent or deal with environmental noise and vibration from aircraft used for civil aviation and limiting the effects of such noise, vibration, pollution or disturbance.	All relevant legislation is considered in the ES. Legislation specific to Noise and Vibration is detailed in Chapter 16 of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	No reference is made to international policy, and the following should not be overlooked: ICAO: The International Civil Aviation Organisation is responsible for establishing technical standards and recommended practices (SARPs). After a standard is agreed and adopted, it is put into national effect by each ICAO member state, the UK being one of these. ICAO has established a number of aircraft operating standards, aircraft noise certification and guidelines for a balanced approach to aircraft noise management. The ICAO guidance material covered by the Balanced Approach provides contracting states with an internationally agreed but flexible approach to address aircraft noise problems at individual airports. The ICAO guidance to member states is to adopt a "balanced approach" to aircraft noise management. This balanced approach consists of four key pillars: 1. Reducing aircraft noise at source, 2. Land planning use, 3. Changes to operational procedures, 4. Restrictions on the use of the noisiest aircraft. EU Regulation 598/2014: establishes rules and procedures with regard to the introduction of noise related operating restrictions at Union Airports within a Balanced Approach.	All relevant legislation, policy and guidance has been considered in the ES including the ICAO Balanced Approach and EU Regulation 598, see <b>Section 16.3 of Chapter 16</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	Reference is made in paragraphs 10.2.21 to 10.2.23 to the Planning Practice Guidance (March 2014), but in this section it might also be helpful to acknowledge: Professional Practice Guidance on Planning and Noise (Pro PG): published jointly by the ANC, IOA and CIEH2, this document is guidance for acoustic practitioners, planners and developers with the aim of protecting home dwellers from excessive levels of noise through good design. This has relevance for new development in areas around Luton Airport that are, or may be in the future, affected by aircraft noise.	Professional Practice Guidance: Planning and Noise has been referenced in <b>Appendix 16.1</b> of this ES [TR020001/APP/5.02] when defining assessment criteria and the night-time UAEL for surface access noise.

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Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	It is stated that, in particular, a noise survey is designed to provide information regarding the noise exposure experienced by those living and working at the various locations potentially affected by noise. This should not be the only determinant of where noise measurements are carried out as levels at a range of noise sensitive receptors including schools, hospitals, places of worship and community centres should not be overlooked.	Noise monitoring locations (including locations at schools) have been discussed and agreed with The Noise Working Group.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	10.4.14 Full details of the assumptions made with regard to noise benefits emerging from new generation aircraft must be presented with relevant justifications for these. 10.4.15 A sensitivity analysis of possible noise outcomes that depend on the noise benefit assumptions made for future aircraft types is an important part of the study. The study should include variations in the rate of uptake of new generation, low noise aircraft, including a worst case position that current generation, noisier aircraft remain a substantial part of the overall mix for all future study years. It should also allow for variations in the actual noise benefits for future variants of current generation aircraft, noting that actual operating procedures adopted at Heathrow Airport may lead to differential variations from the noise certification standards for departures and arrivals.	Noise emissions from new-generation aircraft (e.g. Airbus Neos and Boeing 737 Max) have been clearly defined in <b>Chapter 16</b> of the ES [TR020001/APP/5.01] with further detailed information provided in <b>Appendix 16.1</b> of the ES [TR020001/APP/5.01]. As a reasonable worst-case, the noise assessment in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01] assumes that next-generation aircraft (i.e. those that will start to replace the existing new-generation fleet from the mid-2030s) are no quieter than new-generation aircraft. The assessment is based on the Core Planning Case of expected growth in air traffic; however, sensitivity testing has been undertaken using slower and faster growth cases, which consider throughput being achieved earlier or later than the Core Planning Case to account for any uncertainties in forecasting. A sensitivity test has also been undertaken to demonstrate the potential benefit of next-generation aircraft technology.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	10.5.3 We have noted in Part A above that the scoping report would be expected to provide an indication of the extent of the study area for each of the noise sources to be assessed. We believe that the Scoping Report would be enhanced by including guidelines on how study areas for the individual noise sources will be determined. For example, the approach used for the Heathrow Airport Expansion EIA Scoping Report <sup>3</sup> is informative: Construction noise - Noise from construction sites: up to 300m from any construction activity; - Noise from construction traffic: will be studied where the increase or decrease in road traffic noise caused by changes in the volume of traffic due to DCO construction activity exceeds 1 dB LAeq,T for both day and night periods; - Vibration from construction sites: up to 100m from any construction activity. Aircraft ground noise - Up to 1km from the airport boundary. Road traffic noise - Noise from traffic on existing roads: will be studied where the increase or decrease in road traffic noise caused by changes in the volume of traffic due to DCO operational activity exceeds 1 dB LAeq,T for both day and night periods; - Noise from traffic on roads that are to be altered or newly built as part of the DCO: 600m around these roads as per the DMRB <sup>4</sup> .	Study areas for each noise source, and how they have been derived, are clearly defined in <b>Section 16.3</b> of <b>Chapter 16</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	It is proposed to use 2017 as the Baseline Year, but the impression given in paragraphs 10.4.2 to 10.4.6 is that much of the baseline data gathering is yet to be undertaken. Since the result of measurements will be used to calibrate the computer-based noise modelling, the choice of Baseline Year should reflect conditions as close to those currently being experienced as possible.	Since the scoping report, the baseline year has been updated to 2019. This year represents the last year of normal activity at the airport pre-Covid pandemic.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	Additional noise metrics 10.5.33 A common and useful means of displaying the extent of effects of aircraft overflights is by means of Sound Exposure Level (SEL) Footprints, often at values of 80 and 90 dB(A).	Justification for the choice of primary and secondary noise metrics is provided in <b>Chapter 16</b> Noise and Vibration of the ES, based on the latest noise policies and guidance [TR020001/APP/5.01]. The SEL noise metric is not referenced in the relevant noise policies and guidance.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	Airside ground noise 10.5.36 There is no description of how ground noise levels for aircraft will be established, and clarification is sought on two points: - Distinction will need to be made between noise generated by main engines and noise generated by APUs. Not only will these have different noise characteristics but they are sources at different heights above ground level, which affects propagation. - For new generation aircraft not yet in operation, how will noise levels from main engines at low power (sufficient only to manoeuvre the aircraft around the airfield) be determined as compared to those generated by existing, noisier variants? This is a very important issue with regard to air noise, particularly on departure when engines are operating close to maximum power, but it can also be expected to materially affect ground noise calculations.	The assumptions and methodology for ground noise prediction and assessment are provided in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. Engine noise and APU noise are treated as separate sources. As a reasonable worst-case, it is assumed that next-generation aircraft not yet in operation will be no quieter than the new-generation aircraft that they replace, as their noise performance is not yet known and cannot be guaranteed.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council Appendix B	Noise and Vibration	It would be helpful if this section of the report could be expanded to provide more information. The list of sources is complete but in what way and to what extent are these likely to cause significant effects? What will be the direct effects and will there be indirect effects? Importantly, it would be useful to identify whether any of the noise sources is likely to lead to health effects beyond annoyance, such as sleep disturbance, hypertension, acute myocardial infarction, cognitive impairment etc. This level of discussion would provide very useful context on the scale of the noise effects that may arise as a result of the DCO.	<b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01] contains a full assessment of significant effects (see <b>Section 16.9</b> ). An assessment of health effects from noise including sleep disturbance, hypertension, acute myocardial infarction and cognitive impairment is presented in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].
Appendix 2	Welwyn Hatfield Borough Council	Noise and Vibration / Cultural Heritage	In particular respect of noise there are a number of significant heritage assets within the borough, notably Bocket Hall and grounds and Hatfield House and Park, the Old Palace and St Etheldreda's Church which are all Grade I listed buildings, that should definitely be taken into account when considering flight paths and design envelopes.	Chapter 10 Cultural Heritage [TR020001/APP/5.01] considers the effects of noise and vibration on the setting of heritage assets, such as listed buildings and scheduled monuments. A rationale for including heritage assets in the impact assessment in Section 10.9 of the ES, and for their omission from the impact assessment, was based on the likely effects arising from impacts including aircraft noise. This is described in <b>Section 10.5</b> Methodology, <b>Section 10.7</b> Baseline, and <b>Section 10.9</b> Impact assessment, of <b>Chapter 10</b> Cultural Heritage of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration Air Quality	At para. 15.5.20 it is stated there are quantifiable measures associated with measuring associated exposure to noise and air pollution – while this is true, again PM2.5 pollutant effect across the whole of Luton and in bordering areas needs to be considered. PHOF 3.01 fraction of mortality attributed to particulate matter should be recalculated using new modelling data based on London Luton Airport expansion data.	The air quality assessment study area and methodology has been clearly defined and justified in <b>Sections 7.3 and 7.5 of Chapter 7</b> Air Quality of the ES [TR020001/APP/5.01], following national and industry guidance, including the effects from PM2.5.



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Noise and Vibration Transport and Transportation	In particular, we consider that the increase in ATMs on flight paths into LTN needs to be fully assessed across all environmental topics in order to establish whether significant environmental impacts will arise at a greater distance from the airport than the Study Areas presently adopted for other topics. This noise study area will need to take account of the change in ATMs which in turn could affect a number of other topic areas including health, community, air quality, biodiversity and heritage. The host authorities will wish to be directly involved in agreeing the study area for noise and transport.	The study area for air noise has been defined considering guidance within Air Navigation Guidance, which states: "Below 4,000 feet, there is a strong likelihood that aircraft could create levels of noise exposure above the LOAELs identified above, which is reflected in the Altitude Based Priorities". In addition, the daytime and night-time LOAEL air noise contours for the assessment scenarios have been referenced to define the study area. The study area for noise has informed the assessments in <b>Chapter 8</b> Biodiversity, <b>Chapter 10</b> Cultural Heritage and <b>Chapter 13</b> Health and Community [TR020001/APP/5.01]. The Host Authorities have been fully engaged on the study areas through the Noise Working Group.
<b>Soils and Geology</b>				
4.6.1	Planning Inspectorate	Soils and Geology	The Inspectorate agrees that an assessment of likely significant effects on geological or geomorphological features of scientific interest can be scoped out on the basis that there are none located within (or immediately adjacent to) the Proposed Development.	Geological and geomorphological features of scientific interest and importance were scoped out on the basis that there are none located within (or immediately adjacent to) the Proposed Development. The excavation work in the Chalk may expose features of interest, therefore a watching brief will be undertaken during earthworks and a record made if any features of significance are identified. This is stated in <b>Section 17.3</b> of ES <b>Chapter 17</b> [TR020001/APP/5.01].
4.6.2	Planning Inspectorate	Soils and Geology	The Inspectorate agrees that this is a logical approach; however, would expect to see clear cross-referencing between the two aspect chapters to ensure a full and robust assessment, particularly as data collated for the Soils and Geology assessment will likely inform the Water Resources assessment.	Clear cross-referencing to other interrelated chapters is included in the ES Chapter, with particular reference to <b>Section 17.1</b> of <b>Chapter 17</b> of the ES [TR020001/APP/5.01].
4.6.3	Planning Inspectorate	Soils and Geology	The Scoping Report acknowledges that the location, nature and extent of the proposed Off-site Highway Interventions are not yet known. It also does not provide sufficient certainty that there would be no impacts to sensitive/valued soil and geology receptors or details of the likely proposed measures to be included in the CoCP to manage potential risks. In the absence of this information, the Inspectorate is unable to agree that matters of soil and geology associated with the Off-site Highway Interventions can be scoped out at this stage. The ES should include an assessment of such matters where likely significant effects could occur.	The impacts of off-site highway interventions will be included and assessed in the ES. A Draft Code of Construction Practice (CoCP) has been produced and will be included as <b>Appendix 4.2</b> to the ES [TR020001/APP/5.01]. The Draft CoCP describes the key principles that will be followed to avoid, reduce or manage the construction effects related to land contamination i.e. vapours, dust, asbestos fibres etc.
4.6.4	Planning Inspectorate	Soils and Geology	On the basis that the management of off-site disposal of material on waste management infrastructure is to be assessed in Chapter 13: Waste and Resources of the ES, the Inspectorate agrees this matter can be scoped out of the Soil and Geology aspect chapter. The ES should however include clear and appropriate cross-referencing between relevant aspect chapters, such as Waste and Resources, and Traffic and Transport.	Clear cross-referencing to other interrelated chapters is included in the ES Chapter ( <b>Chapter 17</b> [TR020001/APP/5.01]), with particular reference to <b>Section 17.1</b> .
4.6.5	Planning Inspectorate	Soils and Geology	The Scoping Report identifies a ZOI of 250m from the Main Application Site, extending to 1km for an assessment of landfills, based on guidance contained within the following: National House-Building Council and the Environment Agency (2008) Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1. The ES should clearly justify why this distance is deemed an appropriate ZOI for the Proposed Development with reference to likely source-receptor-pathways. Due to the soils, as stated in the Scoping Report being predominantly clay above chalk, the Applicant should consider the potential for contamination further than 250m especially where waterbodies are present. The ES should ensure adequate cross-referencing between other aspect chapters, such as the Water Resources and Health chapters.	Clarification on the ZOI has been provided in <b>Chapter 17</b> of the ES [TR020001/APP/5.01] and consideration and justification of the distances included. The assessment study area for groundwater, surface water and potable water abstraction as potential receptors to any land contamination has been addressed and the study area extended to 2km. The ZOI was discussed at a further statutory consultation meeting with the Contaminated Land Working Group for which there was tacit approval.

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4.6.6	Planning Inspectorate	Soils and Geology	The four figures presented as Figure 11.2 do not contain legends or labels and therefore it is difficult to identify any features referred to in Paragraphs 11.4.25 to 11.4.27. The Applicant is reminded that the information contained in the ES should be clearly legible and accessible to readers.	Full version of the historical maps are to be found in <b>Appendix 17.1</b> of ES <b>Chapter 17</b> Soils and geology [TR020001/APP/5.01].
4.6.7	Planning Inspectorate	Soils and Geology	The Scoping Report states that the 'The existing baseline assessment of the landfill area will be supplemented to consider the wider geoenvironmental setting and ground conditions within the area of the Proposed Development.' It is not clear from this statement as to whether this relates to an area within and/or beyond the boundary of the Proposed Development. The geographical extent of the studies used to inform the impact assessment should be clearly stated in the ES.	The geographical extents of the study area to inform the impact assessment has been updated and is clearly stated in <b>Chapter 17</b> of the ES [TR020001/APP/5.01]. Further, the zone of influence was discussed during a Contaminated Land Working Group meeting and there was tacit acceptance by consultees present.
4.6.8	Planning Inspectorate	Soils and Geology	The Scoping Report references the potential for 'significant quantities of excess material' and cross refers to Chapter 13: Waste and Resources for an assessment of the impact from disposal of off-site material on existing waste management infrastructure. The Inspectorate would also expect effects associated with the removal off-site of excavated material to be factored into the assessment of traffic and transport and air quality aspect chapters. The ES should include clear and appropriate cross-referencing between aspect chapters to ensure a robust assessment.	Clear cross-referencing to other interrelated chapters is included in <b>Chapter 17</b> of the ES [TR020001/APP/5.01], with particular reference to <b>Section 17.1</b> .
4.6.9	Planning Inspectorate	Soils and Geology	This aspect chapter does not refer to the production of a SMP; however, it is noted to have been referenced in Chapter 16 Agricultural Land Quality and Farming Circumstances. The Inspectorate considers that a SMP is equally applicable to this aspect chapter and would therefore expect measures within a SMP to be referenced in the ES. It is recommended that an outline SMP be included with the ES, with the final SMP appropriately secured through the Applicant's dDCO or other suitably robust method.	The Outline Soil Management Plan has been included in <b>Appendix 6.6</b> of the ES [TR020001/APP/5.01]. <b>Chapter 17</b> Soils and geology of the ES [TR020001/APP/5.01] includes a cross-reference to <b>Chapter 6</b> of the ES [TR020001/APP/5.01].
Appendix 2	Chilterns Conservation Board	Soils and Geology	Figure 11.2 these clipped versions of the historical maps should be displayed larger (1 page each at A3), they are reproduced too small and not a good enough resolution to provide useful data.	Full version of the historical maps are to be found in <b>Appendix 17.1</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Gorbing, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Soils and Geology	We agree with the matters scoped in and out in respect of Soils and Geology (Table 5.2, pages 57-58).	Geological and geomorphological features of scientific interest and importance were scoped out on the basis that there are none located within (or immediately adjacent to) the Proposed Development. The excavation work in the Chalk may expose features of interest, therefore a watching brief will be undertaken during earthworks and a record made if any features of significance are identified. This is stated in <b>Section 17.3</b> of <b>Chapter 17</b> Soils and Geology of the ES [TR020001/APP/5.01] and <b>Appendix 4.2</b> CoCP of the ES [TR020001/APP/5.02].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Soils and Geology	It is noted there are no geological or geomorphological features of scientific interest and importance within or immediately adjacent to the proposed development. Therefore this has been scoped out of further assessment (11.7.1). Whilst this would appear correct from existing information, the requirement for the generation of significant chalk spoil to enable landraising will create an extensive new quarry face, recognised as one of the development zones (excavation earthworks Fig. 3.1). If this results in new exposures of chalk, this could reveal features of geological interest which may need to be retained as exposed faces. This would need to be assessed in due course and would require consideration in respect of future management and use of the site. This is a direct consequence of the development and so will be an effect of the proposals.	Geological and geomorphological features of scientific interest and importance were scoped out on the basis that there are none located within (or immediately adjacent to) the Proposed Development. The excavation work in the Chalk may expose features of interest, therefore a watching brief will be undertaken during earthworks and a record made if any features of significance are identified. This is stated in <b>Section 17.3 of Chapter 17</b> Soils and Geology of the ES [TR020001/APP/5.01] and in <b>Appendix 4.2</b> CoCP of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Soils and Geology	It is not yet understood if there are any areas of deposited material that will be subject to settlement. In the event that there are, then pre- and postsettlement contours and levels are required.	Material will be deposited as part of the earthworks but settlement will be carefully managed and controlled through geotechnical design, using techniques such as surcharging and compaction and subsequent monitoring. This is included in <b>Section 17.8 of Chapter 17</b> of the ES [TR020001/APP/5.01].
Appendix 2	Environment Agency	Soils and Geology Water Resources and Flood Risk	Whilst the majority of the airport is not located within a groundwater source protection zone (SPZ) or groundwater drinking water protected area (DrWPA), parts of the site are located within the "total catchment" zone (or SPZ 3) and drinking water protected zones relating to large groundwater abstractions used for potable supply located to the west of the airport at Crescent Road in Luton and to the north east of the airport in Kings Walden and Whitwell. There is some uncertainty with respect to the actual recharge zones of these abstractions and it is considered likely that the footprint of the airport and the proposed development to the east of the airport does provide a contribution to the catchment zones for these abstractions. As such, we consider the Chalk Principal Aquifer beneath the site to be sensitive and requiring specific consideration as part of any proposed development in the area. The proposed scheme includes elements that could potentially present a risk to groundwater beneath the site. We welcome that detailed geo-environmental and hydrogeological assessments (discussed in chapters 11 and 12 of the scoping report) will be considered in detail in the EIA and feel that the proposed scope is reasonably comprehensive. However, we do feel that the following aspects will need to be "scoped in" to the detailed assessments: - Detailed Hydrogeological Modelling - Discharge of Treated Sewage to Ground - Fire Training Ground	A Hydrogeological Characterisation Report ( <b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) provides a comprehensive description of the existing hydrogeological characteristics underlying the airport.  These baseline considerations have been taken into consideration through the design and assessment process. This has included understanding the relationship between existing and proposed infiltration points and the surrounding source protection zones. A detailed assessment is provided in the Hydrogeological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]) and detailed assessment undertaken when required. The Hydrogeological Risk Assessment: Drainage methodology has been agreed with the Environment Agency.
Appendix 2	Environment Agency	Soils and Geology Water Resources and Flood Risk	We note that the scheme will increase the run off from areas of hardstanding that will be directed to a single infiltration basin/wetland located to the east of the site following treatment. This will reduce infiltration across areas and increased recharge in one area and potentially influence the hydrogeological flows beneath the site. This will need detailed assessment to demonstrate that the proposed scheme will not significantly alter groundwater flow patterns beneath the site such that it could detrimentally impact on identified receptors.	A Hydrogeological Characterisation Report ( <b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) provides a mounding assessment looking at the potential impacts of the drainage design on localised groundwater flow patterns. A detailed assessment of the impact of the drainage proposals on groundwater receptors will be undertaken in the Hydrogeological Risk Assessment ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]). The Hydrogeological Risk Assessment methodology has been agreed with the Environment Agency. These assessments have been completed under the assumption of the successful implementation of the CoCP ( <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).

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<b>Surface Access (Associated with Chapter 18 Traffic and Transportation)</b>				
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation Health and Community	<p>1. Construction</p> <p>Protection from the cumulative impacts of freight and construction vehicles</p> <p>One of our primary transport concerns is that both the construction and future servicing/freight movements at an expanded Luton could put further strain on villages in the north of the county that already suffer with relatively high numbers of HGVs passing through. This has subsequent implications for residents' health, wellbeing and quality of life, and is a significant factor in the attractiveness and economic vitality of local places. An example of this would be the villages of Pitstone and Ivinghoe on the B489, a frequently used route towards Luton from Aylesbury. Construction Management and Workforce Travel Plans</p> <p>We have found these to be key documents within the submissions of our Nationally Significant Infrastructure Projects underway within the county. BCC consider that agreeing terms of reference for this at an early stage would remove some uncertainty for local residents and businesses before DCO submission and enable agreement on DCO requirements and obligations.</p> <p>Maximised use of rail to minimise freight by road. In line with the BCC Freight Strategy (2018), we would like to see a transfer of freight from roads to rail where possible. As such we would like to understand the future opportunities for use of the potential Northampton Strategic Rail Interchanges and the Marston Vale line. We are aware of a Tarmac rail served depot at Crescent Road in Luton which has the potential to be used to receive bulk building materials, albeit involving crossing the town by lorry for delivery.</p>	<p>An Outline Construction Traffic Management Plan is included in the ES as <b>Appendix 18.3 [TR020001/APP/5.02]</b>. This document identified the requirement to agree HGV Routeing for construction traffic. This will provide a means of protecting areas such as that identified from high numbers of HGVs passing through them.</p> <p>The potential for transporting materials by rail would be considered as part of a wider construction logistics strategy.</p>
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation	<p>2. Connectivity</p> <p>We would like to work with LLAL to review the current public transport network and assess the possibility of improving links through the county to towns such as Aylesbury and Buckingham, allowing a greater number of Buckinghamshire residents to access employment opportunities at Luton, as well as providing greater choice for local passengers to access the airport sustainably.</p> <p>The East West Rail project will allow greater connectivity to and from Luton for Buckinghamshire residents through the connection at Bedford. We would like to understand the public transport links between strategic stations such as Bedford and Bletchley and how they will connect to Luton airport.</p> <p><i>Fast and non-congested bus access</i></p> <p>Currently there is no mention of direct services from the Airport to Buckinghamshire towns. We think it is important that towns such as Aylesbury and Buckingham are directly connected with Luton via direct bus routes that pass through appropriate villages, in order to maximise the community benefits that result from the expansion at Luton.</p> <p>We recommend the inclusion of bus/coach priority all around the airport, so that the last 5km is quicker by bus than by car, thereby making this alternative more attractive to both staff and local passengers.</p>	<p>Discussions have been held with Buckinghamshire Council regarding public transport links from the county to the airport. As part of the Travel Plan there will be funding available to support improvements to sustainable forms of transport that provide access to the airport. When travel demand returns to pre-pandemic levels a detailed monitoring programme will be initiated to establish a more detailed understanding of demand for travel to and from the airport with the purpose of identifying where investment in sustainable travel can best be targeted.</p>

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Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation	<p>1) Trip generation and mode share targets</p> <p>Two scenarios have been tested for public transport mode share. The do minimum assumes 40% whilst the do something assumes 45%. The public transport mode shares (bus/coach, rail) will increase gradually from the baseline (32%) to the final goal at the expense of the private car modes (taxi, drop off, car parks). The mode share will be gradually increased from its current base of 32% to reach 45% from 2029 onwards. It would be helpful to understand the origin/destination locations of all vehicle trips to the airport now and in the future, in order to understand where improvements to highways and public transport services should be made. Further to this, within the TA, it would be useful to understand the current (and future expected) levels of employees located in Buckinghamshire. This will allow us to provide advice on how best to encourage these journeys by public transport, or car sharing, rather than single occupancy car use.</p> <p>Similarly, understanding the profile and origin locations of leisure and business travellers using the airport will aid in identifying appropriate mitigation, as well as improvements to the local public transport network, that can be used to increase access to the airport by sustainable means.</p>	<p>The modelling work and in particular the wider strategic modelling undertaken shows all expected trips to and from the airport. The <b>TA [TR020001/APP/7.02]</b> will provide details of trip catchment areas based on forecasts produced by York Aviation. We have not separated leisure and business trips in our models. We will work via the travel plan with LAs to determine how non car trips can be encouraged and will, via monitoring mechanisms, be able to work closely with bus and coach operators to provide more services as appropriate.</p>
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation	<p>2) Increased freight activity (construction and servicing)</p> <p>As stated in the BCC Freight Strategy, effective management of freight through and around Buckinghamshire is vital to the local economy and our residents' quality of life. A number of significant Nationally Significant Infrastructure Projects are proposed in and around Buckinghamshire and we are working with scheme promoters to manage the freight movements associated with their construction and subsequent operation. We request that the TA includes sufficient information on the impacts of the expected freight and construction vehicle activity in north Buckinghamshire, and should include measures that ensure vehicles utilise appropriate freight routes through the county. We wish to understand any East West/West East movements between Buckinghamshire and Luton via Pitstone and Ivinghoe, as this is a particular area that is suffering with high levels of HGVs.</p> <p>Chapter 10.6 states that a Construction Management Plan will be produced which will mitigate the impact of construction traffic on the highway network as a result of the airport development. This should include details of the locations of the construction sites and main HGV routes to and from these sites.</p> <p>There were approximately 28,000 cargo air traffic movements (ATM) within the last year from Luton. The majority of service providers, such as freight forwarders and catering companies, reside outside the Luton airport boundary in the surrounding industrial estates. They would therefore be theoretically outside the scope of the TA if LLAL decide to exclude them from the DCO. However, an upgrade to the airport could result in additional surface freight and servicing movements and so these impacts must be identified and mitigated against.</p>	<p>We will provide in the <b>TA [TR020001/APP/7.02]</b> construction trips expected however it is important to note that this is a proposed development with the expansion taking place over a long time period, thus beyond the <b>TA [TR020001/APP/7.02]</b> detailed traffic management plans will be delivered via the lead contractor that the LAs will be consulted upon. Our proposals do not include major cargo traffic increases thus impact related to the movement of freight on the highway network compared to existing levels will be minimal and to date no specific mitigation is required.</p>

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Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation Luton Rising	<p>3) Public transport accessibility from Buckinghamshire</p> <p>The TASR shares some preliminary information on current bus and rail capacity to Luton. The TA should identify the future capacity needs on key routes, to cater for both the increased passengers and staff. It is important that interchanges from public transport links to Luton services are seamless and easy in order to increase the attractiveness of these options as an alternative to taking a car (including the DART project). In line with this, it would be useful to understand what access points there will be around the airport perimeter for staff and to integrate these with public transport provision.</p> <p>In Table 3 'bus services around the airport' it is clear there is a notable lack of routes into Buckinghamshire for either staff or passengers. We would like to work with LLAL to identify new routes and operators that could potentially serve the Buckinghamshire markets, including coach and bus routes, bus priority measures and upgrading supporting infrastructure. A potential option could be for Buckinghamshire routes to link into current Luton – Dunstable – Leighton Buzzard bus links along the Luton Busway.</p> <p>We understand that total car parking spaces will increase from approximately 14,100 spaces to 22,400 spaces. We would like to understand that how despite this significant increase in car parking spaces, public transport will be encouraged where possible. In addition, we would welcome schemes that incentivise the use of cleaner vehicles.</p>	<p>The <b>Transport Assessment [TR020001/APP/7.02]</b> and ES chapter (<b>Chapter 18 [TR020001/APP/5.01]</b>) will identify the key strategic public transport routes and their capacity. As part of the process of identifying areas for increasing penetration by sustainable modes of travel, Luton Rising would be keen to interact with Buckinghamshire Council to look at opportunities in this area as demand grows. Regarding the comment on the growth in car parking provision, although the proportion of those travelling to and from the airport by public transport will grow there will still be a need to accommodate an increased number of car trips. However although the growth in air passengers from 18 mppa to 32 mppa is an increase of 78% the number of parking spaces is only planned to increase by 56%, which reflects the change.</p>
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation	<p>4) Walking and cycling requirements</p> <p>Paragraphs 10.1 and 10.2 state that the TA will identify the walking and cycling catchment areas for the proposed redevelopment. We would support the identification, formalisation and improvement of any formal or informal walking and cycling routes as part of the package of improvements that will reduce local staff car use, as outlined in paragraph 2.9. We will also expect LLAL to submit a draft Employee Travel Plan, as well as a draft Construction Travel Plan for construction workers during the build out phase, alongside the TA. Both Plans should include measures to facilitate and encourage access by active and sustainable modes for employees, operatives and visitors to Luton Airport and expansion-related sites.</p>	<p>Both a <b>Framework Travel Plan [TR020001/APP/7.13]</b> and Construction Workforce Travel Plan (<b>Appendix 18.4</b> of the ES <b>[TR020001/APP/5.02]</b>) have been submitted as part of the Application. These identify routes and facilities for cyclists and pedestrians.</p>
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Surface Access Traffic and Transportation	<p>The proposed increase in passenger numbers will significantly increase the vehicle movements to and from the site, and so highway and transport network impacts in the surrounding area are expected to be significant. At this stage in the process, there is limited information available about the level of impact we can expect in Buckinghamshire, and the submitted Transport Assessment Scoping Report (TASR) reflects this. Nevertheless, we would like to provide some comments that should help in the continuing development of the Transport Assessment (TA) for the site.</p>	<p>The Strategic Traffic Model includes the highway network to the west of the airport that lies in the area for which Buckinghamshire Council is the highway authority.</p>

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Appendix 2	Royal Mail	Surface Access Traffic and Transport	PART 1. Royal Mail own or have an interest in a number of properties which are in the vicinity of LLAL's proposed Luton Airport expansion, the operations run from which have potential to be affected by the proposals. Royal Mail's network of operations in the Luton area links all of the above properties and because of that they are all vulnerable to changes in capacity within the surrounding highway network. However, out of the operational properties that are listed above, Luton Delivery Office is likely to be most prone to disruption by the expansion of Luton Airport. Luton Delivery Office deliver and collect from Luton Airport. Traffic Generation: There are currently approximately 280 operational vehicle movements per day, in and out, comprising 12 articulated lorries, 12 no. 7.5t lorries and 267 small vehicles. Overtime, admin staff and other shift patterns can result in other movements. Owing to the Delivery office's hours of operation approximately 30% of staff at Luton Delivery Office use a private vehicle to travel to and from work. The remaining circa 70% use Royal Mail vehicles to travel to and from work.	It is intended that construction traffic will use the A1081 to access the M1. There should be no need for it to use local roads and disrupt the operations of Royal Mail. An earlier response has referred to the Draft Outline Construction Traffic Plan and the need for consultation should there be any proposed road closures.
Appendix 2	Royal Mail	Surface Access Traffic and Transport	PART 2. We would draw your attention to the following particular concerns and requirements: - Road access to and from Luton Delivery Office is primarily via Cardiff Grove with the large numbers of vehicles and staff, unconstrained access between the Delivery office and the surrounding highway network is needed at all times. -Shift changeover times are very busy. Some staff travel up to an hour and a half to get to work. Royal Mail lease overflow parking at Dallow Road and Cardiff Road as not enough parking spaces in the Yard. Continuity of operations at Luton Delivery office and connectivity with Royal Mail's operational network is vital to the performance of Royal Mail's universal postal service functions. Any compromise of the existing operation, including the ability of staff to get to and from work without significant delay, will have impacts on the service and potential fines on Royal Mail. In exercising its statutory duties, Royal Mail vehicles use all of the adjacent local roads on a daily basis. Any additional congestion on these roads during the construction phase has the potential to significantly disrupt Royal Mail's operations. Royal Mail therefore wishes to ensure the protection of its future ability to provide an efficient mail sorting and delivery service to the public in accordance with its statutory obligations which may be adversely affected by the construction and operation of this proposed scheme.	It is intended that construction traffic will use the A1081 to access the M1. There should be no need for it to use local roads and disrupt the operations of Royal Mail. An earlier response has referred to the Draft Outline Construction Traffic Plan and the need for consultation should there be any proposed road closures.
Appendix 2	St Albans Council	Surface Access Traffic and Transportation	The Council considers that the Traffic and Transport chapter should include a detailed assessment of the impact of the proposals on traffic congestion on the A1081; A5183 and the B653 into Luton from within the St Albans City & District area. These principle routes already suffer significant congestion and, whilst some improvements to the A1081 have already been identified in the Scoping report, it is considered that detailed monitoring and assessment of all three routes through the ES and separate Transport Assessment is required.	These roads are included in the CBLTM-LTN and the effect on those roads has been examined as part of the TA [TR020001/APP/7.02] and ES assessments. Once traffic levels get back to pre-pandemic levels it is intended to undertake surveys on a number of roads around the airport, such as the Lower Harpenden Road, to establish their current use by airport related traffic.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	St Albans Council	Surface Access Traffic and Transportation	St Albans City & District Council considers that surface access is a key issue in the consideration of the proposals. Out of the five main London airports, Luton currently has the lowest proportion of passengers using public transport but it is noted that Transport and Traffic assessments referenced in the Scoping report are based on a 45% modal shift to the use of public transport. The predicted increase in the use of public transport (from 23% to 45%) is, of course, welcomed but that increase will depend upon significant improvements being made to the availability of appropriate and convenient public transport access to the airport.	The observation made by the Council is based on an incorrect value for the base proportion of air passengers travelling to and from the airport by public transport. Passenger mode shares for the years 2012 to 2020 are set out in LLAOL's 2020 Monitoring report and these figures are sourced by the Civil Aviation Authority rather than LLAOL or Luton Rising. In 2020 with COVID affecting travel characteristics for three quarters of the year, the proportion travelling by public transport dropped to 9% which is understandable given the nationwide drop in public transport patronage. Between 2012 and 2019 the minimum proportion was 29% (2014) and the maximum 38% (2019). This increase upon which surface access movements have been assessed assumes a much more achievable seven percentage point increase rather than the 22 percentage point increase assumed by the Council. Without any improvements that are described in the ES there are already two changes that have or will have occurred since the modal share of 38% was achieved and the DCO application is submitted. The first of these is the enhancement of the East Midlands Railway service between St Pancras International and Corby stations which greatly enhances the capacity of that service. The second is the opening in 2023 of the DART rail shuttle between Luton Airport Parkway station and the existing terminal which has been designed so that it can be extended through to serve a second terminal. These are described in both the ES and the <b>TA [TR020001/APP/7.02]</b> .
Appendix 2	St Albans Council	Surface Access Traffic and Transportation	The existing Midlands Mainline has capacity and congested issues and therefore the ES needs to consider, in addition to the proposals to extend the Luton DART, the additional mitigation measures that will be needed on the existing railway, and other public transport infrastructure, to ensure that the predicted increase in public transport trips up to 45% can realistically be achieved.	At the time of publication of the Scoping report the EMR service that called at London Luton Airport station was typically a five coach Diesel Multiple Unit (DMU) train operating on a hourly frequency between St Pancras International and Nottingham stations. Since then there has been a revamp to the EMR timetable and the station is now served by the new EMR Connect service between St Pancras International and Corby. This service is operated by Class 360 electric trains comprised of 4 carriage sets that can be joined together to form four, eight or 12 carriage trains. The service has a 30 minute frequency with all trains calling at Luton Airport Parkway station. As a consequence the congestion issue referred to by the Council should no longer exist.
Appendix 2	St Albans Council	Surface Access Traffic and Transportation	The program of surface access infrastructure development should be effectively tied to stages of the proposed development.	The surface access infrastructure will be linked to the annual throughput of passengers. This is described in <b>Chapter 18</b> of the ES <b>[TR020001/APP/5.01]</b> .
Appendix 2	St Albans Council	Surface Access Traffic and Transportation	In respect of transport modelling it is noted that significant areas of uncertainty remain. Further sensitivity testing will be needed for new site allocations coming forward in Local/District Plans in the surrounding area, and the ES will need to be reviewed and updated accordingly.	The ES will reflect the committed schemes that satisfy the WebTAG criteria. The assumptions regarding growth have been shared with National Highways, and highway/transport officers at Luton Borough Council, Central Bedfordshire Council, and Hertfordshire County Council.
Appendix 2	Welwyn Hatfield Borough Council	Surface Access Traffic and Transportation	The Council would like to see the DCO give very strong consideration to access to the airport via means other than the private car. There are no direct rail connections between Hertfordshire and Luton. The main public transport option is via bus from Hitchin and Stevenage. Effort should be made to ensure good interchange arrangements so that workers and customers can contemplate a combination of rail and bus services as a valid travel option. This should include real-time information, covered waiting areas and sufficient space for luggage. Services should be designed to correlate with shift patterns and busy flight times (plus the appropriate buffer for check-in and collecting luggage).	Public transport linkage with Hertfordshire will be encompassed in the surface access strategy that is being developed to cater for the throughput of 32 mppa.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The SR notes (para. 2.2.18 and paras. 3.4.37 – 3.4.44) that the Proposed Development will require off-site highway improvements but the nature and extent of these is yet to be confirmed. Whilst LLAL appear confident that such interventions will all be within the highway boundary, we consider that this is a further area of uncertainty that needs to be resolved as soon as possible. These changes could themselves have environmental effects that need to be considered in the ES (further comment is made on this in Section 3.0 below).	The assessment demonstrates that the highway measures proposed do not require third party land and that therefore this is not an area of further uncertainty.



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	However, the SR appears to give limited attention to rail services, with the network beyond Luton Station apparently not featuring in the 'Study Area'. The SR will need to consider existing rail capacity and reliability, and the impact of the increased passenger numbers and modal shift on rail capacity Luton Airport Expansion Response to Scoping Report Page 19 and loadings. The ES should provide clarity on how baselines have been established, how future impacts can be measured, and what enhancement to services may be required in order to achieve the modal shifts suggested.	The study area for the rail network is identified in the Public Transport Model LMVR that was circulated to HCC in March 2019.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Moreover, the Proposed Development as presently described appears to propose limited investment in public transport beyond the Direct Air to Rail Transit (DART) system providing links from Luton Airport Parkway station and revised bus and coach stands incorporated in the lower levels of a new multi-storey car park.	Luton Rising will work with bus and coach operators to identify the potential for the enhancement of existing or the introduction of new services. Where appropriate and warranted, financial support would be made available
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The SR confirms that a Travel Plan will be submitted, but does not identify any long term objectives, targets and indicators to increase for modal share by sustainable methods. Comprehensive details will also be required to set out the actions and measures that need to be taken forward as well as the means of monitoring results to ensure appropriate targets are met within the prescribed timescales.	HCC, NHDC, CBC, LBC are all involved in the Travel Plan Workshops that have been convened to develop the principles and aims that will be incorporated into the Framework Travel Plan that will be submitted as part of the DCO application.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Our main concerns in terms of the potential impact of the proposals upon the Hertfordshire road network relate to the A505 (Hitchin), the A1081 (Harpenden), B653 (Wheathampstead), A602 (Hitchin to Stevenage), M1 and A1(M) junctions. Consideration should therefore be given to any potential changes to the traffic and transport behaviour, particularly potential stress points at junctions and approach roads and consequential effects on local communities (e.g. in Hitchin), such as severance or intimidation.	The SATURN model that is being used to assess the impact of the additional car trips is a combination of the Central Bedfordshire & Luton Traffic Model and parts of the Hertfordshire County Council's COMET model. As such the roads that have been identified are included in the assessment and their representation in the model will be to the same standard that the County relies on to assess transport proposals in its area.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The effects of increased traffic generation on the local and wider highway network need to be fully assessed and the mitigation proposed to minimise disturbance to local communities. Hitchin has several heavily trafficked routes, namely the A505, A600 and A602. These routes carry a significant proportion of through traffic as well as local traffic and often experience peak hour congestion. Table 3-1 of the document sets out potential indicative Offsite Highway improvements including Hitchin Junction improvements. It acknowledges that these will be subject to change following detailed modelling, assessment and engagement with the relevant stakeholders.	As part of the <b>Transport Assessment [TR020001/APP/7.02]</b> potential mitigation schemes are being discussed with the relevant highway authority. For the routes identified in Hitchin this is Hertfordshire County Council.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	In addition, we are concerned by 'rat running' of airport-related trips through the rural lanes to the east of the airport and this should be considered further through traffic modelling and also the EIA process. This will also need to be explored as part of the joint A505 study and the expectation is that the airport should contribute towards any mitigation identified as part of that work.	The density of the network in the SATURN model enables the potential for rat-running to be assessed. As part of the monitoring that will be included in the <b>Framework Travel Plan [TR020001/APP/7.13]</b> , the routes through villages to the east of the airport will be included.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Paragraph 7.6.9 of the SR states that the TA will assess the impact of the proposed development on the local highway network and public transport. It acknowledges that changes in the traffic patterns, freight movement and construction traffic will be the principal focus of the Transport Assessment (TA). In the absence of such a study, there is uncertainty associated with the potential impacts of the proposed routing of the transport links and the transport interchange points. These together with a review of consented and planned developments needs to be consolidated collaboratively prior to finalising the TA.	Information on predicted traffic movements both with and without the expansion of the airport for the years 2027, 2039 and 2043, relating to throughputs of 21.5, 27, and 32 mppa have been presented to these highway authorities. Further information has been provided in the <b>Transport Assessment [TR020001/APP/7.02]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Paragraph 7.9.3 of the SR indicates that the construction traffic movements would be managed by a Construction Logistic Plan (CLP) and Construction Traffic Management Plan (CTMP). It is important that such documents are produced collaboratively to ensure their effectiveness. In order to minimise the number of vehicular movements associated with construction, materials used for the construction of the transport links, infrastructure works and new buildings should be sourced locally wherever possible and the use of recycled materials should be considered.	An Outline Construction Traffic Management Plan has been provided as <b>Appendix 18.3</b> of the ES [ <b>TR020001/APP/5.02</b> ].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	4.31 - The host authorities have been in discussion with LLAL regarding the scope of transport modelling to assess the Proposed Development. 4.32 - The SR does not go into the same level of detail as a recently discussed Transportation Assessment Scoping note. Our comments on modelling are however as follows. 4.33 - The EIA process will rely largely on an updated version of the Central Bedfordshire and Luton Traffic Model (CBLTM) to assess the distribution of future year transport trips from the expansion. HCC agreed that the model needed to be expanded to include more highway network in Hertfordshire using information from the HCC Countywide model (COMET) to ensure that full account is taken of the impact on Hertfordshire roads in particular the A1081 to Harpenden, the B653 Lower Luton Road, the A505 to Hitchin and the rural roads around Breachwood Green. We have not yet seen a report detailing the update process or confirming the revised coverage of the model.	An updated version of the Local Model Validation Report for the CBLTM-LTN has been sent to the relevant highway authorities and this includes a description of the updating process.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The forecast model will need to take into account planned developments within the model area as well as airport growth. As part of the COMET model forecasting process HCC has assembled planning data which is in line with current local plans within Hertfordshire and takes into account developments already within the planning system.	Where a highway authority has requested this information it has been provided.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	A more localised Vissim model has also been developed looking at the detail of the highway network in the vicinity of the airport (mentioned in Section 7.6.10 of the SR). It is understood that the future year Vissim model will be fed from the CBLTM model but the SR does not refer to how this will be done. Further clarity and detail on this aspect is required and how it will be used for the purposes of the EIA.	The future year VISSIM models have been developed independent of the CBLTM-LTN model. However, a sensitivity test has been undertaken which takes the growth from the CBLTM-LTN model and applies this to the VISSIM model to ensure that the mitigation strategy continues to mitigate the impacts of the Proposed Development. The data from the VISSIM model is not used in the ES which is informed by the CBLTM-LTN model.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The Vissim Local Model Validation Report (LMVR) indicates that the modelled flows and turning movements calibrate well on the key routes of concern to HCC (identified as the A1081; B653 and Eaton Green Road). It should be noted that the Vissim Model study area does not cover the A505 or the rural area to the east of Eaton Green. It should be also noted that it is difficult to identify the turning movements from the Appendix A - Junction Turning Movement Validation Results as provided. The LMVR report should also identify the MCC locations used to develop the peak hour analysis.	The VISSIM Model has been developed around the airport and has been enlarged as far as we can take a micro simulation model. In addition to the VISSIM model we have undertaken wider modelling using the CBLTM-LTN to identify impacts over a larger area which includes the A505 and areas to the east of Eaton Green.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	The SR claims that the CBLTM includes allowances for development in surrounding areas so no further cumulative impact testing is required. (Para 7.7.5). As highlighted above, this is considered unacceptable.	The Future Baseline takes account of housing and employment proposals based on current Local Plans for Luton Borough, Central Bedfordshire, North Hertfordshire, St Albans District and Dacorum. Thus cumulative development is fully taken into account and the relevant highway authorities have had the opportunity to comment on the information that has been incorporated into the development of the Strategic Model.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	NHDC in particular have significant concerns over CBLTM's ability to accurately reflect the cumulative impacts of development. This has been specifically raised by NHDC in their representations to the Central Beds Local Plan and the need for further investigation is identified in the subsequent MoU between NHDC and CBC1. Development East of Luton within North Hertfordshire and that proposed surrounding Hitchin is concentrated closer to the borders and the key transport corridor of the A505 than the Central Beds/Luton model is likely to have assumed so impacts may be underplayed. The reliance on this model may well also therefore under-estimate findings in respect of other issues such as air quality.	The extension of the SATURN model from the CBLTM to CBLTM=LTN with the addition of elements of HCC's COMET model overcomes any similar concerns.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	4.41 On a more general point, Table 3.1 lists a number of mitigation measures at junctions in Hitchin. A North Central Hertfordshire Growth and Transport plan along with the A505 strategy is currently being developed. Junction improvement schemes will be required and the form of these will need further discussion.	Luton Rising has been made aware of this study for some time but has not been provided with any of the conclusions and cannot at this stage take any of the recommendations into account.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Concern is raised regarding the suggested highway junction mitigation schemes proposed for Hitchin and the impact these are likely to cause with respect to traffic congestion and delays and how improvements could cater for other modes of sustainable transport. No reference is made to the NHDC Transportation Strategy <sup>2</sup> which seeks to promote sustainable modes of transport and references further work that is being undertaken with the host authorities regarding the A505 Corridor.	The proposed schemes in Hitchin are indicative with the purpose of showing that there are measures that could provide the mitigation for the additional airport related traffic. In the meetings with HCC over the last three years it has been made clear that, if mitigation were required, Luton Rising would work closely with HCC to produce a satisfactory solution. The work being undertaken on the A505 is known to the Surface Access team and requests have been made on a number of occasions for the team to be informed of the findings.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation	Any parties carrying out works on the existing highway or the proposed new highway will need to indemnify the Highways Authorities and keep indemnified against all claims under Part I and Part II of the Land Compensation Act 1973 (including claims the Highways Authorities determine should be met under the provisions of the Noise Insulation Regulations 1988).	As part of ongoing engagement, the Applicant will discuss an appropriate resolution to this matter including, should it be necessary, a mechanism for addressing it.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Cumulative	As part of their Cumulative Effects Assessment, the Applicant has assembled their own planning data from publicly available sources. However, the Long List of 'other developments' in Appendix D1 excludes a number of development sites (for example in St Albans District to the south of the airport). We are concerned that the modelling work may underestimate future highway conditions as a result. The interaction between the CEA and the highway modelling therefore needs to be clarified.	The proposed approach to the inclusion of cumulative schemes is described in a document titled 'Modelling Forecasting and Assumptions' which has been prepared by Arup and is Appendix C in the TA Scoping Report that was circulated to these authorities in 2018.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Luton Rising	The SR acknowledges that public transport improvements are required and that a significant shift to public transport is a key component of any future transport strategy, alongside the introduction of traffic management measures. However, we are concerned by the lack of detail and commitment to improving public transport to achieve modal shift targets and how such improvements will be funded.	Measures to enhance the attractiveness of public transport and thus achieve the target modal splits have been discussed as part of the Travel Plan workshops. The measures will be set out in the <b>Transport Assessment [TR020001/APP/7.02] and Framework Travel Plan [TR020001/APP/7.13]</b> .
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Luton Rising	Currently, shuttle buses transport passengers between Parkway station and the airport (though the DART should replace this shuttle service in 2021). The reliability and journey time of the bus service can be affected by traffic congestion, which is difficult to predict in advance. These issues can lead to stressful and delayed journeys to the airport. To achieve the delivery of sustainable airport growth at LTN whilst mitigating the negative impacts on the local road network, the Applicant will need to work with the transport authorities and other stakeholders to improve non-car modes of access.	The shuttle bus service will cease when the DART service opens in the second half of 2022 which will mean that passengers transferring between the station and the airport will no longer be affected by conditions on the highway. Much of the congestion that affected that service related to the construction work that was being undertaken in the central terminal area over a long period that resulted in temporary road layouts that were less able to cater for demand than the layout that will exist in the future.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Luton Rising	Alongside the required highway improvements and investment in DART, the Applicant will need to consider bus and coach service improvements to bring passengers and staff to the site from areas not linked directly to Luton by rail (for example east-west in Hertfordshire from Stevenage, Hitchin, Welwyn Garden City, Hatfield, Hemel Hempstead and Watford). Such proposals will be important embedded mitigation and at present are under-developed. Improvements could include service frequency enhancements, increased hours of operation, vehicle and technology improvements and price incentives to make the services more attractive to passengers. A genuine commitment to improvements across all passenger transport modes is required as part of the design of the Proposed Development and associated mitigation measures.	The provision of increased bus/coach services is acknowledged as an important part of the strategy to increase the overall mode share for public transport. Examples of measures that are being explored include: - Engagement with bus operators to create new or extended routes, better connecting the airport to more places in particular urban areas and transport hubs. - Potential for employee-only buses to provide links to poorly connected residential areas. - Bus enhancements, including subsidies for east-west routes to improve service provision and passenger experience. - Delivery of the Airport Access Road to improve the connectivity and journey time reliability for buses accessing the airport. - Work with operators to open up new destinations and connections. - Work with operators to strengthen existing services.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Luton Rising	We foresee that this will include working with local authority partners, bus operators and the airport operator to look for opportunities to maximise the levels of passenger transport. This would include through the proposed Intalink Enhanced Partnership currently being developed. The overarching objectives of the partnership (to prioritise bus services in traffic, improve the image of bus services, upgrade bus infrastructure, closer integrate the network and use data and information more smartly) are directly relevant to the application, and should be used in support of increased sustainable travel to Luton Airport.	Luton Rising will work with both operators and local councils to identify and support measures to improve the bus/copach connectivity.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Surface Access Traffic and Transportation Luton Rising	Priority must be given to facilitating access to high quality public transport, with services that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use rather than private cars. All of the host authorities will need to be certain that such measures are properly costed and delivered through the DCO as essential mitigation. It is crucial to specify the cost of such measures at an early stage of scheme development and to set out delivery mechanisms.	There will be a commitment to enhance public transport services and that financial assistance would be made available but it would be premature at this stage to identify individual improvements apart from those that relate to the facilities at the airport.
Appendix 2	Royal Mail	Surface Access Traffic and Transportation Constructability	Royal Mail asks that LLAL notes the above and addresses the following comments / requests: 1- Royal Mail requests that the ES includes information on the needs of major road users (such as Royal Mail) and acknowledges the requirement to ensure that major road users are not disrupted through full consultation at the appropriate time in the DCO and development process. 2- The ES should include detailed information on the construction traffic mitigation measures that are proposed to be implemented, including a draft Construction Traffic Management Plan (CTMP). 3- Royal Mail requests that it is fully pre-consulted by LLAL on any proposed road closures / diversions / alternative access arrangements, hours of working and the content of the CMTP. The ES should acknowledge the need for this consultation with Royal Mail and other relevant local businesses / occupiers. Royal Mail is able to supply the applicant with information on its road usage / trips if required.	Please refer earlier responses to Royal Mail.
<b>Traffic and Transportation</b>				
4.2.1	Planning Inspectorate	Traffic and Transportation	No matters have been proposed to be scoped out of the assessment.	No matters were scoped out of the assessment for the ES.
4.2.2	Planning Inspectorate	Traffic and Transportation	The traffic and transport chapter will be supported by a TA. The Applicant should ensure that the relationship between the TA and the scope of the traffic and transport assessment is fully explained and justified within the ES. The Applicant should make effort to agree the scope of the assessment with the relevant consultation bodies.	A Transport Assessment Scoping Report was circulated to the relevant highway authorities some time ago and many meetings have taken place with those bodies since then. The relationship between the ES and the TA has been detailed in <b>Chapter 18</b> of the ES [TR020001/APP/5.01].
4.2.3	Planning Inspectorate	Traffic and Transportation	A travel plan will be drafted to support the traffic and transport assessment. For the avoidance of doubt any such travel plan should extend to workforce travel. The Applicant should make effort agree the scope of the travel plan with relevant consultation bodies. The approach to the assessment should be fully explained and justified within the ES.	<b>A Framework Travel Plan (FTP) [TR020001/APP/7.13]</b> has been prepared that will apply to both passengers and airport related employees. The development of the FTP includes a series of Workshops attended by representatives of National Highways, LBC, CBC, HCC, and NHDC.

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4.2.4	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that a continuing programme of engagement is ongoing with the relevant consultees, and that future consultation is planned with train, bus and coach operators. Agreements reached with consultation bodies on the Applicant's methodological approach to the assessment should be documented in the ES where relevant.	References to the agreement of the methodology used in the assessment will be presented in the ES ( <b>Chapter 18 [TR020001/APP/5.01]</b> ) and/or the TA <b>[TR020001/APP/7.02]</b> as appropriate.
4.2.5	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that a continuing programme of engagement is ongoing with the relevant consultees, and that future consultation is planned with train, bus and coach operators. Any agreements reached with the consultation bodies on the Applicant's methodological approach should be documented in the ES, where possible.	Many meetings have been held with these consultees and further meetings are planned. Minutes of the meetings are prepared and agreed by all participants.
4.2.6	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that the study area will be defined by the major transport routes serving the catchment area for air travellers and the locations of residences of the workforce. It further states that the geographical scope of the assessment will be determined based on the results of the TA scoping. The study area in the ES should be established relevant to the extent of the likely significant effects and in accordance with recognised guidance (e.g. Design Manual for Roads and Bridges (DMRB)) for the affected road network. The Applicant should make effort to agree the study area with relevant consultation bodies.	The Study Area was agreed with the relevant highway authorities prior to the production of predicted traffic flows for the 'Without Expansion' and 'With Expansion' scenarios for the assessment years.
4.2.7	Planning Inspectorate	Traffic and Transportation	The definition of 'workforce' is unclear in the Scoping Report. The ES should clearly define these terms and ensure that they sufficiently encompass the applicable receptors.	The workforce covers those whose workplace is the airport and those working offices at the airport.
4.2.8	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that personal injury collision data will be obtained from Luton Borough Council (LBC), and that this may also extend to Central Bedfordshire Council (CBC) and Hertfordshire County Council (HCC). The Inspectorate recommends that the assessment takes into account personal injury collision data in respect of any roads falling within the study area and for which CBC and HCC are the highways authority. This data should be presented in the ES, alongside the data for LBC.	The basis of the percentage growth on roads in these two districts there will be no links on roads for which CBC or HCC is the highway authority where the IEMA Guidelines rule of thumb of a change in traffic flow of 30% applies, therefore there is no prospect of there being a significant effect in those two areas
4.2.9	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that the assessment will consider a number of years to reflect the phased build-up of passengers and to identify key infrastructure requirements for each stage. The anticipated assessment scenarios have been presented, but these are subject to change. The ES should include a description of each scenario used in the assessment demonstrating that the worst-case construction and operational assessment scenarios are identified. The assessment years should be consistent between the traffic and transport and air quality assessments where relevant and effort should be made to be agree the approach with the relevant consultation bodies.	The ES has three future assessment years that are common to all assessments. The reasoning behind the choice of these three years is explained in the ES and that will demonstrate why these are worst case operational assessments. The Strategic Model that is used to provide the predicted flows is only run for the three assessment years of 2027, 2039, and 2043. The predicted construction traffic in the peak quarters in the build up to the three assessment phases will be tested against the most appropriate flows produced by the Strategic Model, reflecting the highway network that will be in place, and will demonstrate that the construction traffic has a much lower impact. Because the years for the the predicted non-airport related flows and the peak construction flows are not the same, there will a qualitative assessment described in the chapter to demonstrate that a robust assessment has been undertaken. Because of the common assessment years, the traffic and transport and air quality assessments are consistent.

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4.2.10	Planning Inspectorate	Traffic and Transportation	The Scoping Report states that significance ratings of major and moderate will be considered as significant in EIA terms, and that those classified as minor and negligible will not. However, in presenting the approach to the assessment of significance as adapted from DMRB guidance, Table 7.4 of the Scoping Report states that low magnitude impacts on receptors of high sensitivity can be 'minor or moderate' which lack certainty with regards to the assessment of significant effects. In accordance with DMRB guidance, in these cases 'a single description should be decided upon with reasoned judgement for the level of significance chosen'. Such reasoned judgement should be presented and justified within the ES.	In the section of the ES ( <b>Chapter 18 [TR020001/APP/5.01]</b> ) where the assessment is reported, only one level is given.
4.2.11	Planning Inspectorate	Traffic and Transportation	Highways England has raised concerns about the Applicant's methodology for assessing significance and has recommended an alternative approach. The Inspectorate considers that the scope of the assessment in the ES should be related to the extent of impacts and whether significant effects are likely to occur. The Applicant should make effort to agree its approach with Highways England and other relevant consultation bodies.	The approach will be reviewed following analysis of the response to the 2022 Statutory Consultation provided by National Highways. The particular respondent that made the observation left the project prior to the 2022 Stat Con and there were no further observations on the methodology from National Highways.
4.2.12	Planning Inspectorate	Traffic and Transportation	While the Scoping Report states that the impacts associated with traffic generation will be taken into account within the assessment, it is unclear specifically which traffic generating elements of the Proposed Development this will encompass. The ES should provide clear and precise information on the elements of the Proposed Development that are being assessed within the traffic and transport aspect chapter and, for the avoidance of doubt, this should include (but not be limited to) the traffic generation associated with fuel delivery and waste removal, as referred to in other aspect chapters of the Scoping Report.	The assessment of the traffic generation is based on the output flows from the Strategic Transport Model and cover the activities of the airport and also the traffic flows related to permitted development known as Century Park.
4.2.13	Planning Inspectorate	Traffic and Transportation	The Scoping Report gives limited consideration to the impacts of the Proposed Development on the rail network. The ES should consider the existing rail capacity and reliability, and the impact of the increased passenger numbers and modal shift on rail capacity and loadings. The ES should provide clarity on how baselines have been established and how future impacts can be measured. In line with Buckinghamshire County Council's Freight Strategy (2018), the ES should include an assessment of any assumptions made regarding the transfer of freight from roads to rail in connection with the Proposed Development.	The ES includes an assessment of the rail capacity and presents additional passenger demand by hour which is then compared with that capacity. It is not possible to include a baseline level of occupancy on the rail service because of the changes that will have occurred with the greatly increased capacity resulting from the introduction of the EMR Connect service and the effects of the pandemic on rail use that has the consequence that there is no base data reflecting the revised pattern of services.
Appendix 2	Highways England	Traffic and Transportation	I have set out below both the general and specific areas of concern that Highways England would wish to see considered as part of the Environmental Statement. The comments relate specifically to matters arising from our responsibility to manage and maintain the Strategic Road Network (SRN) in England. In the case of this proposal, this relates principally to the M1, A1(M) and A5 and the connections between the SRN and Local Road Network. Comments relating to the local road network itself should be sought from the appropriate local highway authority.	Comments relating to the local road network have been sought from the appropriate local highway authority.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Highways England	Traffic and Transportation	<p>PART 1: General aspects to be addressed in all cases should include:</p> <ul style="list-style-type: none"> <li>• An assessment of transport related impacts of the development should be carried out and reported as described in Department for Communities and Local Government (DCLG) Planning Practice Guidance 'Travel plans, transport assessments and statements in decision-taking'.</li> <li>• Assessment should be compliant with the requirements of Circular 02/2013 'the strategic road network and the delivery of sustainable development'.</li> <li>• Environmental impact arising during construction and operational phases of the development, including traffic volume, composition or routing change and transport 2 infrastructure modification should be fully assessed and reported. Any environmental impact of the existing trunk road upon the development itself should also be assessed.</li> <li>• Adverse changes to noise and to air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management areas.</li> </ul> <p>General aspects to be addressed in all cases should include:</p> <ul style="list-style-type: none"> <li>• An assessment of transport related impacts of the development should be carried out and reported as described in Department for Communities and Local Government (DCLG) Planning Practice Guidance 'Travel plans, transport assessments and statements in decision-taking'.</li> <li>• Assessment should be compliant with the requirements of Circular 02/2013 'the strategic road network and the delivery of sustainable development'.</li> </ul>	<p>These are general guidelines that should be followed when assessing impacts that affect the motorway and trunk road network and have been taken into account in producing the assessment.</p>
Appendix 2	Highways England	Traffic and Transportation	<p>PART 2:</p> <ul style="list-style-type: none"> <li>• Environmental impact arising during construction and operational phases of the development, including traffic volume, composition or routing change and transport infrastructure modification should be fully assessed and reported. Any environmental impact of the existing trunk road upon the development itself should also be assessed.</li> <li>• Adverse changes to noise and to air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management areas.</li> <li>• No new connections are permitted to the Highways England drainage network. In the case of an existing 'permitted' connection, this can only be retained if there is no land use change.</li> <li>• Development must not lead to any surface water flooding on the SRN carriageway.</li> <li>• Each chapter of the Environmental Statement should set out specifically why it complies with planning policy, where this is not the case, it should be explicit what the material considerations are together with the proposed mitigation measures.</li> <li>• A detailed Construction Management Plan will also be required including detailed traffic management measures during construction of any work likely to impact on the safe and efficient operation of the SRN.</li> <li>• A Framework Travel Plan for the site should accompany the application. We would welcome reviewing this in advance of submission and it may be necessary to secure the measures detailed within the Travel Plan by ways of a planning condition.</li> </ul>	<p>These are general guidelines that should be followed when assessing impacts that affect the motorway and trunk road network and have been taken into account in producing the assessment.</p>



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Appendix 2	Highways England	Traffic and Transportation	<p>Location specific considerations:</p> <ul style="list-style-type: none"> <li>Discussions are already underway with the applicant and their appointed consultants to agree a scope of a Transport Assessment (TA). Whilst some items have been agreed, many remain outstanding at this stage. Any assessment should consider the operation of the Strategic Road Network – in this case the M1, A1 (M) and A5. Given the scale and location of the development, the M1 is likely to be significantly affected.</li> <li>The TA should demonstrate compliance with NPPF, DfT Circular 02/2013 and other industry best practice or relevant legislation.</li> <li>The application of the IEMA significance criteria, as set out in the scoping note, are not considered suitable for delimiting the scale and extent of the assessment. These were developed in 1993, and essentially dismiss any change in traffic flows lower than 10%, which given the high base flows in this area, especially on the SRN, is likely to result in the exclusion of sections of the highway network with high existing traffic flows from the ES study area. An alternative approach should be proposed. Current best practice would be to properly assess the impact on traffic delays (without implausible screening thresholds), including on public transport and non-motorised users. This should also recognise the potential for impacts on servicing and access (including parking). Most major schemes have used such an approach. The Crossrail project and High Speed 2 have both developed comprehensive scope and methodology for the assessment of traffic and transport impacts. These have also been developed for less major schemes such as Transport for London's Victoria station and Bank Station upgrade proposals. The Bank Station Scoping Report, for example, recognises the need to address issues beyond those set out in the 1993 guidance (summarised in paragraph 7.4.3 of the Bank Station Scoping Report). The High Speed 2 Scope and Methodology Report has a similar approach. These approaches have been consulted on extensively and can be considered current best practice</li> <li>The impact of construction traffic on the SRN should be assessed.</li> </ul>	The approach will be reviewed following analysis of the response to the 2022 Statutory Consultation provided by National Highways.
Appendix 2	Highways England	Traffic and Transportation	The scope of the necessary Environmental Assessment will need to be informed by the outcomes of the associated Transport Assessment work which is as yet incomplete. Should it transpire that the scope of the ES needs to be extended due to the emerging conclusions of the TA, for example, then it may be necessary to re-visit and re-consult on the ES.	Although the <b>TA [TR020001/APP/7/02]</b> has not yet been written the assessment has been undertaken and it can be confirmed that there is no requirement to extend the scope of the EIA.
Appendix 2	Vincent and Gorbing, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Traffic and Transportation	<p>4.12 We consider that LLAL's approach to transport is key to the acceptability of the Proposed Development. The document recognises the planned growth initiative under the HCC's Local Transport Plan (LTP4) to make the best use of the existing runway with assessments identifying the capacity of the existing runway being 36-38mppa. 4.13 It also acknowledges Policy 11 of the LTP4, which states "The county council, working in partnership with neighbouring local authorities and airport operators, will seek improvements to surface access to Luton and Stansted Airports, and promote and where possible facilitate a modal shift of both airport passengers and employees towards sustainable modes of transport".</p> <p>It is therefore vital that the proposed expansion is taken forward in an environmentally sensitive and sustainable manner.</p>	Luton Rising recognises the importance of its approach to transport and to that end there has been extensive liaison with the local highway authorities and discussions with public transport operators to explore opportunities for developing a strategy that recognises the need to take forward the proposed expansion in an environmentally sensitive and sustainable manner.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Traffic and Transportation	The following concerns are raised, however, as to certain aspects of the proposed assessment. Achieving modal shift 4.15 Table 7-1 gives details of the mode of travel to the airport. It shows that Luton has the lowest uptake of public transport when compared to Heathrow, Gatwick, London City and Stansted. During discussions with ARUP (on behalf of LLAL) it was suggested by them that the uptake ought to be similar to that of Gatwick, although that may now be a lower figure similar to Heathrow. Regardless, we consider that all the various modelling scenarios need to have a sensitivity test run with public transport uptake set at its current level in order to ensure the assessment of the worst case scenario.	It is not considered that there is a need to undertake a sensitivity test with the public transport mode share at its current level since the DART link between the station and the airport terminal will provide a major improvement in terms of public transport connectivity for the airport when it becomes operational in 2022 and rail capacity has been greatly enhanced by the introduction of the EMR Connect service which provides a half-hourly non-stop connection to St Pancras International station in addition to the existing Thameslink service.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Traffic and Transportation	The report indicates that the Proposed Development will result in an increase in passenger trips by non-car modes as more passengers use such modes in the coming years. The SR suggests a significant increase in public transport mode share from a baseline 31% of 15.6 mmpa (Table 7-1, p128) to 45% of 32 mmpa passenger transport (Paragraph 3.4.22, p 35). 4.17 The emphasis is therefore to maximise the use of sustainable transport modes and seek to meet modal shift targets. This accords with the Hertfordshire and Luton Local Transport Plans.	The figure for the 2019 public transport share that is taken from the CAA passenger survey and reported in the LLAOL Monitoring Report 2020 shows that even without the introduction of the DART service and EMR Connect there has been a significant shift in the modal share. Therefore these measures together with other measures that will be introduced through the Travel Plan mean the the target is very realistic.
Appendix 2	Welwyn Hatfield Borough Council	Traffic and Transportation Health and Communities / Noise Cumulative	Due to the distance from the boundary of the Welwyn Hatfield District border, overall concerns are low in relation to activities on site. The main concern is regarding the increase in road and air traffic, and the potential impact that this may have in terms of noise on residents of the Welwyn Hatfield. We would like to see the how, if at all, roads in the district will be affected and in turn, how much the associated noise levels are expected to raise to due to road and air traffic. Some properties are already effected by high road traffic noise levels, and there is the potential for these to raise or for overall noise levels in these areas to raise due to cumulative impacts of additional air craft noise, which will then have a negative impact on the health of residents. Mention is made of the potential for air craft technology to improve, thus reducing noise levels from each aircraft, which over the course of the development may result in lesser overall impacts. In any case, as per the scoping report, we would expect to see a link in with the HIA for the potential for the impact of noise on health from this proposed development.	A detailed assessment of noise from air and road traffic has been undertaken and is presented in <b>Chapter 16</b> Noise and Vibration of the ES [TR020001/APP/5.01]. An assessment of health effects from noise including sleep disturbance, hypertension, acute myocardial infarction and cognitive impairment is presented in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Traffic data for Noise and Air Quality	Section 7.1.6 of the SR refers to the need for daily traffic flows. These will need to be provided in the correct formats for Noise and Air Quality Modelling (ie AADT and 24 hour flows) and we will require this information (along with the results of the environmental modelling work) for the key routes into Hertfordshire including the A1081 to Harpenden, the A505 to Hitchin, the B653 Lower Luton Road, Markyate Road and the rural area to the east of Luton. Any reporting needs to clearly document the data and expansion factors used. Data will also be needed on the percentage of HGVs and traffic speeds on the surrounding highway network.	The study area has been clearly defined and justified in this ES to account for airport emission sources, aircraft emissions during arrival and departure up to an altitude of 457m, and the affected road network as detailed in <b>Section 7.3</b> of <b>Chapter 7</b> of the ES [TR020001/APP/5.01].

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<b>Waste and Resources</b>				
4.8.1	Planning Inspectorate	Waste and Resources	The Inspectorate agrees that this matter can be scoped out of the assessment. This is on the basis that such matters cannot be accurately predicted and assessed in the ES as they relate to procurement decisions that cannot be assured; however, the Inspectorate anticipates that the Applicant would implement sustainable procurement practices in the selection of sustainable sources.	Whilst these matters are scoped out, embedded and good practice mitigation measures including waste minimisation and sustainable procurement practices are described in <b>Section 19.8 of Chapter 19</b> of the ES [TR020001/APP/5.01]. <b>Paragraphs 19.8.5 and 19.8.6</b> outline the targets that would be applied to the Proposed Development. Good practice mitigation measures are included in <b>paragraphs 19.8.7-19.8.17</b> .
4.8.2	Planning Inspectorate	Waste and Resources	It is not apparent from the Scoping Report that these matters will be assessed in other aspect chapters. The Inspectorate accepts that these matters can be scoped out of the waste chapter of the ES on the basis that the assessment of likely significant effects associated with the management of waste will be assessed in other relevant aspect chapters. Clear cross-referencing between these relevant matters must be included in the ES to ensure a robust assessment has been undertaken.	The assessment of likely significant effects associated with the management of waste on water resources, air quality, noise or traffic resulting from the generation, handling, on-site temporary storage or off-site transport of waste is assessed in other relevant ES aspect chapters: <ul style="list-style-type: none"> <li>• Air quality (odour and dust from construction including landfill excavations and waste processing, <b>Chapter 7 Air Quality [TR020001/APP/5.01]</b>),</li> <li>• Traffic and transportation (removal of waste by road is included in the assessment of construction, <b>Chapter 18 Traffic and Transportation [TR020001/APP/5.01]</b>,</li> <li>• Greenhouse gases (embedded carbon emissions in materials, transport of construction materials and transportation and disposal of waste, on site construction activity, operation of the airport, buildings, assets and vehicles including waste treatment, <b>Chapter 12 Greenhouse Gases [TR020001/APP/5.01]</b>,</li> <li>• Noise and vibration (noise and vibration from earthworks and construction of the airport infrastructure including landfill excavations and waste processing, changes in on-site ground noise associated with the operational project, and changes in road traffic noise, including from the new road infrastructure, <b>Chapter 16 Noise and Vibration [TR020001/APP/5.01]</b>,</li> <li>• Soils and geology (contamination issues, Chapter 17 Soils and Geology [TR020001/APP/5.01], and,</li> <li>• Water resources (construction and operational impacts e.g. potential impacts on groundwater, <b>Chapter 20 Water Resources and Flood Risk [TR020001/APP/5.01]</b>.</li> </ul>
4.8.3	Planning Inspectorate	Waste and Resources	The Inspectorate notes that the overall study area for the Proposed Development has not yet been determined and it is the Applicant's intention to agree this with applicable consultation bodies. The study area should be clearly defined and justified in the ES with reference to the Zol for the Proposed Development.	The Study Areas are defined in <b>Table 19.6 of Chapter 19</b> of the ES [TR020001/APP/5.01] and agreed with applicable consultation bodies (LBC, CBC and HCC). The ZOI for waste and resources is the same as the non-hazardous waste Study Area (Bedfordshire, Buckinghamshire and Hertfordshire). More detail is provided in <b>Chapter 21 In-combination and Cumulative Effects [TR00001/APP/5.01]</b> .
4.8.4	Planning Inspectorate	Waste and Resources	The Scoping Report states that the study area for the construction of the Proposed Development is the 'footprint of the Proposed Development, including temporary land requirements during construction'. The ES should clearly define this study area, accompanied by clear and appropriately labelled/referenced figure(s).	The Study Areas are defined in <b>Table 19.6 of Chapter 19</b> of the ES [TR020001/APP/5.01] and <b>Figure 19.1 and Figure 19.2</b> of the ES [TR020001/APP/5.03] and have been agreed with applicable consultation bodies (LBC, CBC and HCC).
4.8.5	Planning Inspectorate	Waste and Resources	The Applicant should seek to agree the baseline data to be used for landfill capacity with the relevant consultation bodies and ensure the use of the most up-to-date capacity data for the regions/Counties assessed, taking account of any likely closures/capacity changes at the start of construction as future baseline.	Consultation with relevant consultation bodies (LBC, CBC and HCC) is described in <b>Section 19.4 of Chapter 19</b> of the ES [TR020001/APP/5.01]. Baseline data is presented in <b>Section 19.7 of Chapter 19</b> of the ES [TR020001/APP/5.01]. When new baseline data is available, this has been discussed and agreed with the LBC, CBC and HCC.

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4.8.6	Planning Inspectorate	Waste and Resources	The Scoping Report provides a brief statement with respect to the amount of airport operational waste diverted from landfill in 2017, as stated to have been provided by LLAOL at footnote 282. The ES should expand on this statement and provide evidence to support statements made in respect to the baseline data used in the assessment.	Operational waste data for 2019 is presented in <b>Table 19.8 and Table 19.9 of Chapter 19</b> of the ES [TR020001/APP/5.01] and has been provided by the airport operator in the form of an annual waste report with associated recycling rates.
4.8.7	Planning Inspectorate	Waste and Resources	The Scoping Report states that due to an absence of a specific methodology/guidance for assessing effects on waste and resources, it intends to use professional judgement, national and local policy, and recognised best practice. The ES should clearly explain the methodology applied to the assessment; where professional judgement has been applied this should be clearly stated.	The methodology applied is outlined in <b>Section 19.5 of Chapter 19</b> of the ES [TR020001/APP/5.01]. The methodology is in accordance with the IEMA Guidance which was published in 2020, i.e. post receipt of the Scoping Opinion. This methodology has been agreed with CBC, LBC and HCC. Where professional judgement has been applied this is clearly stated in brackets in the text.
4.8.8	Planning Inspectorate	Waste and Resources	Table 13-6 makes no specific reference to the existing landfill site within the Proposed Development and the likely type of waste arisings the remediation of this area would generate. An assessment of the waste generated from this remediation should be included in the ES. Appropriate cross-references should be included between this aspect chapter and other relevant aspects, such as (but not limited to) Traffic and Transport, Soils and Geology, and Air Quality. The Applicant should seek to agree the proposed remediation strategy with relevant consultation bodies, including waste authorities and the EA, and ensure that consideration is given to the waste arisings being moved up the waste hierarchy.	The assessment of likely significant effects associated with the management of waste on water resources, air quality, noise or traffic resulting from the generation, handling, on-site temporary storage or off-site transport of waste is assessed in other relevant ES aspect chapters and cross referenced as appropriate. The likely types of waste arisings from the remediation of the existing landfill site are discussed in <b>paragraphs 19.9.22-19.9.23</b> and outlined in <b>Table 19.44 of Chapter 19</b> of the ES [TR020001/APP/5.01]. The proposed remediation strategy and details of consultation with the EA is outlined in the <b>Chapter 17 Soils and Geology [TR020001/APP/5.01]</b> . Embedded and good practice mitigation measures including waste arisings being moved up the waste hierarchy are outlined in <b>Section 19.8</b> .
4.8.9	Planning Inspectorate	Waste and Resources	It is not clear from this aspect chapter what future baseline will be considered for this assessment, particularly for operational effects. The ES should make clear the baseline scenarios applied to the assessment.	A future baseline for landfill capacity has been estimated in discussion with stakeholders (LBC, CBC and HCC) and using the Microsoft Excel Forecast function and is presented in <b>paragraphs 19.7.23-19.7.28 of Chapter 19</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources	4.82 The inclusion of assessment of 'Waste and Resources' is welcomed and reflects engagement held to date. We agree that the ES should scope in most of the waste which would arise from the Proposed Development. 4.83 The document refers to the National Planning Policy Framework (NPPF), National Planning Policy for Waste (NPPW), National Waste Plan and the most recent Waste and Resources Strategy. It may be beneficial to add details of the National Planning Policy Guidance (NPPG) which also contains waste specific guidance. References made to adopted policies in the HCC Waste Local Plan are welcomed as are those made to the other County and Local plan policies.	Details of the NPPG has been added to <b>Chapter 19</b> of the ES [TR020001/APP/5.01].

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources	Of specific concern is Table 13.3 which details landfill inputs and capacities for Hertfordshire and states that there is 733m <sup>3</sup> of Non-Hazardous landfill capacity in the county. Whilst this might be the case at present, the last remaining non-hazardous landfill facility is due to close in 2021, leaving no capacity for non-hazardous landfill in the county. This table also quotes figures from 2017 which will need to be updated to give a true picture of site availability (e.g. those with remaining capacity may not be continuing for planning reasons).	Landfill input data is presented in the ES for context however this data is not used in the numerical assessment. 2021 Waste Summary Tables for England - Version 1 outlines the landfill capacity at the end of 2021 and this is presented in <b>Table 19.24</b> in <b>Chapter 19</b> of the ES [TR020001/APP/5.01]. A future baseline for landfill capacity has been estimated in discussion with stakeholders (LBC, CBC and HCC) and using the Microsoft Excel Forecast function and is presented in <b>paragraphs 19.5.10</b> of <b>Chapter 19</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources	Table 13-3 also identifies 609,000 tonnes input into non-hazardous landfill sites in Bedfordshire in 2017. It should be noted that this was not nonhazardous waste but inert waste for restoration purposes at non-hazardous sites.	Input data is provided to set context rather than being used in the assessment. 2021 Waste Summary Tables for England - Version 1 outlines the inputs at the end of 2021 and this is presented in <b>Table 19.25</b> of <b>Chapter 19</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources	Para 13.7 states that waste arising from extraction, processing and manufacture of construction components and product is 'scoped out' and this is understood and accepted.	Waste arising from extraction, processing and manufacture of construction components and product is scoped out of the EIA.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources	The use of 'designing out waste' workshops, Site Waste Management Plans, Code of Construction Practice (CoCP) (subject to our comments above) and Contaminated Land: Applications in Real Environments (CL:AIRE) code of practice (as set out in para 13.8) is supported.	A designing out waste workshop has been undertaken alongside discussions with the Proposed Development design team throughout the design process. This is outlined in <b>paragraph 19.8.7</b> of <b>Chapter 19</b> of the ES [TR020001/APP/5.01]. This ES references the relevant sections of the CoCP ( <b>Appendix 4.2</b> in of this ES [TR020001/APP/5.02]), those referring to the Site Waste Management Plan (SWMP) and Materials Management Plan (MMP). The SWMP and MMP is a lead contractor requirement as outlined in the CoCP. A Draft OSWMP is appended to the ES ( <b>Appendix 19.1</b> of this ES [TR020001/APP/5.02]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Waste and Resources Soils and geology	Reference is made at 11.4.22 to the presence of the historic landfill at Eaton Green and the need to excavate the site, in part, to deliver the Proposed Development. Whilst it is noted that preliminary ground investigations have identified 'a large proportion of daily cover material', there is evidence of other types of waste (domestic/mixed) and therefore the need to seek suitable options for treatment and/or disposal. We are keen to ensure that the waste is moved up the hierarchy and that the scarcity of facilities and disposal sites for any waste that is deemed to be hazardous is fully considered.	Table 19-52 of <b>Chapter 19</b> of the ES [TR020001/APP/5.01] outlines the estimated quantities of excavated material from the historic landfill to be taken offsite with potential waste management routes. Waste will be managed by the Proposed Development lead contractor in accordance with the waste heirachy and taking into account the proximity principle.

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<b>Water Resources and Flood Risk</b>				
4.7.1	Planning Inspectorate	Water Resources and Flood Risk	The Inspectorate is content that the Main Application Site is located entirely within Flood Zone 1 and is not located in an area susceptible to groundwater flooding. The Inspectorate is content that the assessment of impacts associated with flooding from rivers and groundwater can be scoped out of the ES as significant effects are unlikely to occur.	An assessment of the impacts of groundwater flooding has now been scoped into the EIA ( <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]) due to the potential for local groundwater mounding associated with the infiltration tanks included as part of the Proposed Development to affect local groundwater flood risk and downstream receptors (including Kimpton).  The Hydrogeological Characterisation Report ( <b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) also provides a mounding assessment looking at the potential impacts of the drainage design on localised groundwater flow patterns and flooding.
4.7.2	Planning Inspectorate	Water Resources and Flood Risk	The ES should also refer to The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	The Water Environment (WFD) (England and Wales) Regulations 2017 and WFD (Standards and Classification) Directions 2015 are outlined in <b>Section 20.2</b> of the ES [TR020001/APP/5.01] and in the Water Framework Directive Compliance Assessment ( <b>Appendix 20.2</b> of the ES [TR020001/APP/5.02]).
4.7.3	Planning Inspectorate	Water Resources and Flood Risk	The Scoping Report does not state the proposed assessment study area for the ES. The ES should clearly state and justify the study area used, which should be applicable to the Zol of the Proposed Development.	The study area and ZOI for the water resources assessment is described in <b>Section 20.3</b> of the ES [TR020001/APP/5.01].
4.7.4	Planning Inspectorate	Water Resources and Flood Risk	Consultation bodies have identified the likely attenuation basin in Eaton Green Road and potential sources of information (see Appendix 2 to the Opinion). The ES should clearly describe and identify the drainage network likely to be affected by the Proposed Development, including clear figures.	A detailed description of the existing drainage network is provided in the Drainage Design Statement provided as <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]. A summary of the drainage design is also provided in <b>Section 20.8</b> of <b>Chapter 20</b> of the ES [TR020001/APP/5.01].
4.7.5	Planning Inspectorate	Water Resources and Flood Risk	The Inspectorate notes the intention to use and refine an existing EA groundwater model of the Vale of St Albans to understand the existing groundwater levels and flow paths, but that details of the model are not yet available. The ES and/or accompanying appendices should include details of the modelling methodology, including any assumptions made or limitations encountered. Efforts should also be made to agree the modelling with the relevant consultation bodies, including the EA.	A Hydrogeological Characterisation Report ( <b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) and Hydrological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]) have been completed to describe baseline hydrogeological conditions and assess the potential impact of the project on groundwater receptors. The Hydrogeological Characterisation Report has been completed using the updated Vale of St Albans groundwater model as provided by and agreed with the Environment Agency.  A Detailed Quantitative Risk Assessment ( <b>Appendix 17.3</b> of the ES [TR020001/APP/5.02]) provides a detailed assessment of the risk of contamination from the landfill to the underlying groundwater using Consim modelling. The methodologies applied in these assessment has been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP ( <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]). The key outcomes of these assessments are summarised in <b>Sections 20.7, 20.8, 20.9 and 20.10</b> of the ES [TR020001/APP/5.01] and <b>Chapter 17</b> Soils and Geology of the ES [TR020001/APP/5.01].

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4.7.6	Planning Inspectorate	Water Resources and Flood Risk	<p>The Applicant should undertake a detailed assessment, including hydrogeological modelling, to identify any potential impacts to groundwater flow patterns beneath the Proposed Development arising from the surface water drainage strategy and assess any likely significant effects on sensitive receptors. Effort should be made to agree the assessment methodology, including modelling, with relevant consultation bodies including the EA.</p>	<p>A Hydrogeological Characterisation Report (<b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) provides a mounding assessment looking at the potential impacts of the drainage design on localised groundwater flow patterns. A detailed assessment of the impact of the drainage proposals on groundwater receptors will be undertaken in the Hydrological Risk Assessment: Drainage (<b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]).</p> <p>The methodologies applied in these assessment have been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP (<b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
4.7.7	Planning Inspectorate	Water Resources and Flood Risk	<p>The ES should make clear the proposed strategy and route for the discharge of treated sewage to ground arising from the Proposed Development. An assessment of effects to sensitive water receptors, including effects on groundwater quality in the underlying Chalk Principal Aquifer, should be provided where likely significant effects could occur.</p> <p>The Applicant should make effort to agree the assessment methodology, including the need for a detailed hydrogeological risk assessment, with relevant consultation bodies. The hydrogeological assessment should include: consideration of the potential effects that both chemical and microbiological contaminants may have on the underlying aquifer; details of the proposed treatment process; details of the proposed discharge arrangement; and long-term monitoring (including groundwater quality monitoring) arrangements.</p> <p>The Inspectorate notes the Applicant's intention to discharge treated surface water flows and treated sewage effluent flows via a single discharge point to ground. It is recommended that two separate discharge points are considered. The Applicant should seek to agree this matter with the EA. Noting that the proposed discharge of the treated surface water drainage and discharge of treated sewage effluent both require permits under the Environmental Permitting Regulations.</p>	<p>The approach to defining the existing baseline and the assessment undertaken to inform the ES are outlined in <b>Section 20.5</b> of the ES [TR020001/APP/5.01].</p> <p>The proposed surface and foul water drainage design including the methods of treatment and disposal are described in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]) and outlined in <b>Section 20.8</b> of the ES [TR020001/APP/5.01]. This includes the provision of a real time monitored surface water drainage system that will activate a diversion of surface water runoff to a Water Treatment Plant (WTP). This plant will also accept effluent from the terminal and other buildings. The WTP will enable treatment of water to remove all identified contaminants (chemical and biological). The drainage design then includes two separate soakaways, one for the untreated and uncontaminated surface water runoff and one for fully treated foul discharge.</p> <p>A Hydrogeological Characterisation Report (<b>Appendix 20.3</b> of the ES [TR020001/APP/5.02]) provides a mounding assessment looking at the potential impacts of the drainage design on localised groundwater flow patterns. A detailed assessment of the impact of the drainage proposals on groundwater receptors will be undertaken in the Hydrological Risk Assessment: Drainage (<b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]).</p> <p>The methodologies applied in these assessment has been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP (<b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
4.7.8	Planning Inspectorate	Water Resources and Flood Risk	<p>The Applicant should seek to agree the need or otherwise for connections to the Highways England drainage network with Highways England. Noting that no new connections are permitted to the Highways England drainage network and that in the case of an existing 'permitted' connection, this can only be retained if there is no change to land use.</p>	<p>Any connections required to the National Highways network will be determined as part of the design of the surface access works. Engagement with National Highways is ongoing and will continue as further details are developed and agreed.</p>

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4.7.9	Planning Inspectorate	Water Resources and Flood Risk	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 Proposed Development has been designed in consultation with Affinity Water, Veolia Water, and London Luton Airport Operations Ltd (the airport operator). Therefore, existing infrastructure related to the public and private water supply distribution networks have been identified in relation to the Main Application Site and has informed the assessment outlined in the Flood Risk Assessment ( <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]) and the Water Cycle Assessment ( <b>Appendix 20.5</b> of the ES [TR020001/APP/5.02]).  A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].
4.7.10	Planning Inspectorate	Water Resources and Flood Risk	The ES should also assess impacts arising from the discharge of sewage effluent during operation, where likely significant effects could occur.	An assessment of the impact of discharge of sewage effluent during operation is provided in <b>Section 20.9</b> of the ES [TR020001/APP/5.02] and in the Hydrogeological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]) and the Water Framework Directive Compliance Assessment ( <b>Appendix 20.2</b> of the ES [TR020001/APP/5.02]).  The methodologies applied in these assessment have been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP ( <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).
4.7.11	Planning Inspectorate	Water Resources and Flood Risk	The ES should assess impacts to water quality arising from the operation of the relocated fire training ground, where likely significant effects could occur. For example, through the generation and release of firefighting foam, hydrocarbons and used water run-off.	During fire training operation, the fire training ground will be isolated from the rest of the airside sections of the airport by way of valves incorporated into the drainage pipe network. Water generated by the fire training activities including wash down after the event has ceased will then be collected and transported off site for appropriate treatment and disposal. This water will not be treated within the on-site WTP and so will not be discharged to ground.  A detailed description of the drainage design is provided in the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).
4.7.12	Planning Inspectorate	Water Resources and Flood Risk	The Scoping Report commits to providing surface water strategies with the ES. The Inspectorate considers that any such strategies should include measures to address impacts during construction, where significant effects are likely to occur.	A construction stage surface water management strategy is to be prepared by the lead contractor. The principles to be followed are included in the CoCP provided as <b>Appendix 4.2</b> of this ES [TR020001/APP/5.02].
4.7.13	Planning Inspectorate	Water Resources and Flood Risk	The figures provided with the Scoping Report do not clearly identify the River Mimram or the Ippollitts Brook. The ES should be supported by clear figures to depict these waterbodies.	<b>Figures 20.1 to 20.5</b> to the ES [TR020001/APP/5.03] and referenced in <b>Section 20.7</b> of the ES [TR020001/APP/5.01] includes identification of the River Mimram and the River Lee.  Ippollitts Brook is no longer considered a receptor as the proposed surface access works in the vicinity of this watercourse is no longer required. However, off site works are now proposed along the A602 at junctions which have the potential of affecting the River Hiz. Therefore, <b>Figures 20-1 to 20-5</b> to accompany the ES [TR020001/APP/5.03] now include this watercourse.



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4.7.14	Planning Inspectorate	Water Resources and Flood Risk	The Health and Communities aspect chapter of the Scoping Report identifies that impacts to health effects of water and groundwater contamination and flooding will be elsewhere in the ES, presumably in the Water Resources aspect chapter. However, it is not apparent from the Scoping Report that the Water Resources aspect chapter will assess these matters. The ES must include an assessment of likely significant effects to health arising from water and groundwater contamination and flooding associated with the Proposed Development.	<p>The assessment of the flood risk has not identified any potential impacts on human health. If any such impacts are identified these will be signposted to in <b>Chapter 13</b> Health and Community of the ES [TR020001/APP/5.01].</p> <p>A detailed assessment of the impact of the drainage proposals on groundwater receptors has been undertaken in the Hydrological Risk Assessment: Drainage (<b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]).</p> <p>The DQRA (<b>Appendix 17.3</b> of the ES [TR020001/APP/5.02]) provides a detailed assessment of the risk of contamination from the landfill to the underlying groundwater provides an assessment of the risk of contamination from the landfill to the underlying aquifer and considers human health.</p> <p>The methodologies applied in these assessment has been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP (<b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
Appendix 2	Environment Agency	Water Resources and Flood Risk	In addition to the above, the proposed discharge of treated sewage effluent to ground will require a permit under the Environmental Permitting Regulations (England and Wales) 2016 and at this time insufficient detail has been provided to know if this discharge can meet our requirements to prevent pollution. If the discharge of treated sewage effluent to ground is unavoidable we recommend that the developer considers parallel tracking the planning and permit applications as this can help identify and resolve any issues at the earliest opportunity.	<p>The decision to adopt a strategy whereby foul and surface water are combined and discharged to ground is based on indications from Thames Water that the East Hyde STW is at capacity. Therefore, it was decided that exploring an alternative strategy for foul water may be beneficial. In addition a treatment works has been proposed and discussed with the Environment Agency to treat the surface water from the site in order to address the contamination caused by de-icing agents such as glycol. As the most effective method of treating glycol is a bacteria based treatment facility it was considered beneficial to combine the surface and foul water treatment facilities. This would ensure that the treatment works do not have long periods of inactivity which could occur in the scenario where a surface water only treatment plant exists, as it would only be required to treat water during the relatively short period when de-icing agents are applied. This would disrupt the treatment plants effectiveness and reduce its ability to treat the polluting matter when required. Therefore, having one treatment plant is a safeguard against this as the bacterial agents will be in operation throughout the year. The plan going forward is to agree discharge consent criteria and assess the impact of this level of pollutant loading on the underlying groundwater.</p> <p>The drainage design is described in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p> <p>The Environment Agency have been consulted on permitting requirements and a summary of stakeholder engagement is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.02].</p>
Appendix 2	Environment Agency	Water Resources and Flood Risk	We would also suggest that sewage effluent is added to the likely key impacts to the water environment during operation in Sec 12, 12.6.5	The assessment of likely impacts to the water environment in <b>Section 20.9</b> of the ES [TR020001/APP/5.01] includes consideration of potential impacts of sewage effluent associated with the scheme. Sewage effluent has also been considered in the supporting Water Framework Directive Compliance Assessment ( <b>Appendix 20.2</b> of the ES [TR020001/APP/5.02]) and the Hydrological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]).

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Appendix 2	Environment Agency	Water Resources and Flood Risk	Sec 3, 3.4.27 notes that the fire training ground is going to be moved to the south of the runway. There is then mention of the impacts that the fire training ground could have on air quality and also on noise. However no mention of the impact it could have on water quality. p251 mentions 'airport related pollutants' but we would prefer to see a specific mention to the fire training ground as an individual issue due to potential issues relating to the use of firefighting foam, hydrocarbons and fire water run-off.	<p>During fire training operation, the fire training ground will be isolated from the rest of the airside sections of the airport by way of valves incorporated into the drainage pipe network. Water generated by the fire training activities including wash down after the event has ceased will then be collected and transported off site for appropriate treatment and disposal. This water will not be treated within the on-site WTP and so will not be discharged to ground.</p> <p>A detailed description of the drainage design is provided in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	We recognise that a full Flood Risk Assessment and Drainage Strategy will be prepared. We would like to see the ES consider the following:- - If soakaways are to be used to remove surface water, that it will not cause land slip or sink holes. - If discharge to a watercourse is to be used to remove surface water, it is not going to cause flooding or movement of pollution in to a watercourse. - We would expect the FRA and Drainage Strategy to fully address any fluvial, groundwater or surface water flood risk areas that require consideration..	<p>A Flood Risk Assessment (<b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]) has been prepared that addresses fluvial, surface water and groundwater flood risk.</p> <p>Assessment of sinks holes and landslips will be undertaken as part of the geotechnical design.</p> <p>Discharge to surface watercourses will only occur if a discharge occurs at the moment and the rate of discharge will either match existing or be reduced to equivalent Qbar greenfield rates. Therefore, this is not a consideration at the main application site. A detailed description of the drainage design is provided in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	A drainage strategy during construction would also be expected as an integral part of the application.	A construction surface water management strategy will be prepared as part of the CoCP (provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]). This will be started during the design stages and will be developed to a greater level of detail by the lead contractor during the site stages.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The reference at para. 12.2.7 to the use of sustainable drainage systems is considered as relevant to LTN and would be seen as progressive and advantageous, especially in context of full or partial integration with the wider landscape.	There has been comprehensive consultation on the surface water management strategy and agreement that the overriding public safety concerns from the airport design community regarding bird strikes, promoted by open water, has restricted and overwhelmed the drainage teams suggestions for surface water attenuation features. Therefore, soakway features have been implemented as outlined in the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	As per the guidance set out at para. 12.2.10 the applicant should assess the effects of the Proposed Development on the surrounding water (distribution) and wastewater treatment network, including the impact on the wastewater treatment works in East Hyde. To this effect the applicant should consult with Affinity Water and Thames Water.	<p>Consultation has been undertaken with third party asset owners (including Affinity Water and Thames Water) where required to understand and quantify the potential impacts of the development on third party assets. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].</p> <p>Details of all changes to existing airport assets relevant to drainage are included in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]) and summarised in <b>Sections 20.7 and 20.9</b> of the ES [TR020001/APP/5.01] where relevant.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	<p>It is noted that policy LLP36 of the Luton Local Plan is summarised at para. 12.2.16. The text of that policy requires that:</p> <ul style="list-style-type: none"> <li>- all development proposals are assessed against the Luton Water Cycle Strategy and consider recommendations of the Strategic Flood Risk Assessment and Luton Flood Risk Management Strategy</li> <li>- all new development should provide a drainage strategy and those over 100 dwellings must also provide a site specific Water Cycle Strategy.</li> <li>- developments are expected to incorporate multi-functional sustainable drainage systems (SuDS), which also address water efficiency and rainwater harvesting. SuDS should be designed in accordance with Luton's Sustainable Drainage Advice</li> </ul>	<p>A Flood Risk Assessment (<b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]) has been prepared that addresses fluvial, surface water and groundwater flood risk.</p> <p>A Water Cycle Assessment (<b>Appendix 20.5</b> of the ES [TR020001/APP/5.02]) has been prepared that takes into account water efficiency and rainwater harvesting proposals included in the drainage design.</p> <p>The Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]) includes a full description of the drainage design. The use of SuDS has been restricted and overwhelmed by concerns related to safety due to risk of bird strike promoted by the inclusion of open water features.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	<p>4.68 The Proposed Development should comply with this policy.</p> <p>4.69 Policy LLP38 (Pollution and Contamination) of the Luton Local Plan is also relevant to the Proposed Development in relation to water resources, as it refers to satisfactory disposal of surface and waste water, which should deliver water quality improvements where feasible, and should not be detrimental to the management and protection of water resources.</p>	<p>The assessment of potential impacts on water pollution has been carried out in line with Luton local policy and reference to specific policy is included in <b>Section 20.2</b> of the ES [TR020001/APP/5.01]. The assessment has informed the drainage design described in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	<p>The Study Area (para. 12.4.1) appropriate to consider the impact on surface water resources should be based on hydrology; i.e. it should consider the impact on surface water catchments from the final outfall from the drainage system, which may fall outside of the suggested 1km zone from the Main Application Site.</p>	<p>As stated in <b>Section 20.3</b> of the ES [TR020001/APP/5.01], the spatial scope of the assessment for water receptors is primarily defined as 1km from the Main Application Site but has been extended to consider receptors outside of the 1km scope where a hydraulic connection has been demonstrated.</p>
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	<p>Should connections be proposed into the Thames Water network, or the private airport network that in turns connects to Thames Water network, discharging into the River Lea, the ongoing (unresolved) issues in respect of trade effluent consents and environmental permits for discharge and water quality monitoring should be taken into account and any cumulative impacts carefully considered and addressed, preferably with the view to provide betterment of the local environment.</p>	<p>The assessment of potential impacts (<b>Section 20.9</b> of the ES [TR020001/APP/5.01]) on water pollution has considered potential impacts on the River Lee. Any discharge required to the River Lee will be via a Thames Water surface water sewer and appropriate treatment measures will be incorporated to ensure no adverse impact on water quality.</p>

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	In respect of data gathering (para. 12.4.2), Thames Water should be consulted to access current trade effluent consents and available surface and waste water modelling.	Consultation has been undertaken with Thames Water to discuss any potential impacts on their assets. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	In the description of existing conditions (12.4.6 – 12.4.8) it should be noted that the River Lea is also a chalk stream, albeit heavily modified, as noted in para. 12.4.6.	The baseline section of the ES ( <b>Section 20.7</b> ) [TR020001/APP/5.01] and the Water Framework Directive Assessment ( <b>Appendix 20.2</b> of the ES [TR020001/APP/5.02]) identify the River Lea's status as a chalk stream.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The second attenuation basin in Eaton Green Road (para. 12.4.10) is likely to be part of the airport drainage network and known as the Northern Soakaway, however this is impossible to confirm without an unambiguous reference on a map. Full details of airport related attenuation features are available from Veolia Water who manage the network for the airport. Alternatively, descriptions of the airport drainage network had been provided as supporting documents for discharge of flood and drainage related conditions/variations linked to planning permission for the ongoing expansion of the airport (reference 12/01400/FUL).	Details on existing airport infrastructure has been provided by Luton Airport London Operations Ltd (the airport operator) and Veolia Water and are summarised in <b>Sections 20.7 and 20.8</b> of the ES [TR020001/APP/5.01]. Further details are also provided in the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The Applicant is referred to the Luton Surface Water Management Plan (SWMP - noted as reference 234 on page 238) which identifies two critical drainage areas within the Main Application Site - VAUX and WIGP. The flood mechanisms had been explained in detail in the draft report and should be considered and acknowledged.	Flood mechanisms associated with two critical drainage areas identified in the Luton Surface Water Management Plan have been included in the Flood Risk Assessment ( <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The ES should include clear plans showing the locations of the infrastructure described at paras. 12.4.39 and 12.4.40. Details of the sewer network to the final discharge point (in cooperation with the network operator), to ensure that the known current issues are not exacerbated. airport drainage system operated by Veolia Water should also be mapped and provided as part of the ES. Where connections to existing networks are proposed (this relates to both the Main Application Site and the Off-site Highway Interventions) the applicant will be expected to provided full mapping of the sewer network to the final discharge point (in cooperation with the network operator), to ensure that the known current issues are not exacerbated.	A detailed description of the drainage design is provided in the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The existing surface water drainage characteristics (para. 12.5.4) should be determined using the latest edition of Flood Estimation Handbook (FEH) – i.e FEH13 (2015). For ease of review, it is suggested that the tools available at [REDACTED] are used as recommended in the Luton's Sustainable Drainage Advice (see comment in respect of para. 12.2.16 at para. 4.67 above).	The existing surface water drainage characteristics have been determined using the tools available at [REDACTED]. For the estimation of greenfield runoff rates the IH124 tool has been utilised, opposed to the FEH statistical tool.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	As well as the provision of a separate FRA and drainage strategy to accompany the ES a Water Cycle Strategy will also be required, to ensure compliance with Policy LLP36 of the Luton Local Plan (given the scale of the proposals is greater than 100 dwellings).	A Water Cycle Strategy is provided as <b>Appendix 20.5</b> of the ES [TR020001/APP/5.02] and has been prepared in line with requirements of the Luton Local Plan.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The desktop review of potential risk to groundwater (para. 12.5.5) should also consider the desktop reviews completed for the current phase of airport expansion and submitted for discharge of contamination related conditions/variations linked to the planning permission for the ongoing expansion of the airport (reference 12/01400/FUL).	A detailed assessment of the impact of the drainage proposals on groundwater receptors will be undertaken in the Hydrological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]). This has considered the current and future planned assessment phases of the airport expansion.  The methodologies applied in these assessment has been agreed with the Environment Agency and have been undertaken under the assumption of the successful implementation of the CoCP ( <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02]) and the Drainage Design Statement ( <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	Damage to existing water infrastructure during construction (para. 12.6.3 last bullet point) should also consider the distribution network of Affinity Water and the private network at the airport.	Consultation with Affinity Water and Luton London Airport Limited (the airport operator) has been completed following the submission of the PEIR to discuss potential impacts on existing infrastructure. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Water Resources and Flood Risk	The FRA (para. 12.8.5) should in particular consider the surface water risk to and appropriate mitigation to ensure a safe operation during the lifetime of the development of the off-site highway interventions in Wigmore Lane. Potential mitigation may consider upstream measures, in which case the proposed development boundary may be affected.	The Flood Risk Assessment ( <b>Appendix 20.1</b> of the ES [TR020001/APP/5.07]) provides an assessment of the impact of the development proposals on surface water flood risk and includes the surface access works at Wigmore Lane.
Appendix 2	Environment Agency	Water Resources and Flood Risk Drainage	The proposed discharge of the treated surface water drainage will require a permit under the Environmental Permitting Regulations (England and Wales) 2016. At this time we note that it is proposed to combine the treated surface water flows with treated sewage effluent flows (discussed further below) and discharge via a single infiltration basin; the management and permitting of this combined discharge could present a challenge and we recommend that two separate discharge points are considered going forwards. We recommend that the developer considers parallel tracking the planning and permit applications as this can help identify and resolve any issues at the earliest opportunity.	Consulation has been undertaken with the Environment Agency and Thames Water to discuss permitting requirements. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].

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Appendix 2	Environment Agency	Water Resources and Flood Risk Drainage Soils and Geology	We note that it is proposed to discharge treated sewage effluent originating from the new airport development to ground. We will only agree to developments involving the release of treated sewage effluent to ground if it is satisfied that it is not reasonable to make a connection to the public foul sewer. At this time no detailed explanation has been provided as to why it is not possible to provide a connection to the public sewer. Given the scale of the development we are concerned that this proposed discharge of treated sewage effluent to ground could potentially have a significant impact on the groundwater quality in the underlying Chalk Principal Aquifer. If it is not possible to connect to the public foul sewer a detailed hydrogeological risk assessment of the proposed discharge will be required as part of the EIA; if it cannot be demonstrated that this discharge will not detrimentally impact on groundwater quality in the underlying Chalk Principal Aquifer this approach will not be acceptable. The hydrogeological assessment should include consideration of the potentials effects that both chemical and microbiological contaminants may have on the underlying aquifer, details of the proposed treatment process, details of the proposed discharge arrangement and long term monitoring (including groundwater quality monitoring) arrangements.	<p>The preliminary decision to adopt a strategy whereby foul and surface water are combined and discharged to ground is based on indications from Thames Water that the East Hyde STW is at capacity. Therefore, it was decided that exploring an alternative strategy for foul water may be beneficial. In addition a treatment works has been proposed and discussed with the Environment Agency to treat the surface water from the site in order to address the contamination caused by de-icing agents such as glycol. As the most effective method of treating glycol is a bacteria based treatment facility it was considered beneficial to combine the surface and foul water treatment facilities. This would ensure that the treatment works do not have long periods of inactivity which could occur in the scenario where a surface water only treatment plant exists, as it would only be required to treat water during the relatively short period when de-icing agents are applied. This would disrupt the treatment plants effectiveness and reduce its ability to treat the polluting matter when required. Therefore, having one treatment plant is a safeguard against this as the bacterial agents will be in operation throughout the year. The plan going forward is to agree discharge consent criteria and assess the impact of this level of pollutant loading on the underlying groundwater.</p> <p>The drainage design is described in the Drainage Design Statement (<b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p> <p>The Environment Agency have been consulted on permitting requirements and a summary of stakeholder engagement is provided in <b>Section 20.4</b> of the ES [TR020001/APP/5.01].</p>
Appendix 2	St Albans Council	Water resources and Flood Risk Landscape and Visual	The ES should include an assessment of sustainable drainage systems suitable for the proposed development. Whilst it is noted that a separate Drainage Strategy is to be prepared, the ES should consider any impacts arising on the landscape and visual effects of the development through the ES Landscaping chapter.	<p>There has been comprehensive consultation on the surface water management strategy and agreement that the overriding public safety concerns from the airport design community regarding bird strikes, promoted by open water, has restricted and overwhelmed the drainage teams suggestions for surface water attenuation features.</p> <p>The assessment of effects on landscape and visual amenity provided at <b>Chapter 14</b> of the ES [TR020001/APP/5.01] takes into account impacts arising from the drainage design (described in full in Drainage Design Statement, <b>Appendix 20.4</b> of the ES [TR020001/APP/5.02]).</p>
<b>In-Combination and Cumulative Effects Assessment</b>				
4.16.1	Planning Inspectorate	In-Combination and Cumulative Effects	The Inspectorate agrees with this approach and is content that significant cumulative effects from GHG emissions can be assessed the Climate Change aspect chapter.	Acknowledged. No further response required as the comment is for information purposes only.
4.16.2	Planning Inspectorate	In-Combination and Cumulative Effects	If exclusion criteria are to be used in the identification of the long list of other developments at Stage 1, then these must be clearly stated and justified. Consideration needs to be given to the potential for non-significant effects of a number of projects or developments contributing to an overall significant effect.	<p>Exclusion criteria used during Stage 1 of the Cumulative Effects Assessment have been described and justified in <b>Section 21.3</b> of <b>Chapter 21</b> In-combination and cumulative effects of this ES [TR020001/APP/5.01].</p> <p>Other developments have been screened based on nature, temporal and spatial scope, scale and density, and availability of information as described in Stage 2 in <b>Section 21.3</b> of <b>Chapter 21</b> of the ES [TR020001/APP/5.01].</p>

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
4.16.3	Planning Inspectorate	In-Combination and Cumulative Effects	Table 21-2 of the Scoping Report notes that the transport and traffic assessment, based on surface access modelling, is inherently cumulative as it includes employment and housing development projections. The Applicant should ensure that the list of cumulative developments (including Local Plan allocations) that are taken into account within the Cumulative Effects Assessment are aligned with the traffic modelling.	<p>The list of other developments included within the surface access modelling is broadly aligned with that for the EIA. There is however a primary focus on the employment and housing developments (greater than 100 jobs or more than 250 dwellings respectively), i.e. those likely to contribute a large volume of road traffic. The identified developments for the surface access modelling, and a factor for natural growth, have been incorporated into both VISSIM modelling and strategic modelling upon which the Traffic and Transport, Air Quality, and Noise assessments are based.</p> <p>Further information regarding the criteria for other developments identified will be provided in the Transport Assessment to be submitted with the application for development consent.</p> <p><b>Appendix 21.1</b> of this ES [TR020001/APP/5.02] identifies which of the other developments included on the long list have also been included in the traffic modelling.</p>
4.16.4	Planning Inspectorate	In-Combination and Cumulative Effects	The Applicant should interrogate assumptions made in surface access modelling to ensure that these are up to date and include relevant other developments. The Applicant should make effort to agree the model or models for the cumulative assessment of transport and transportation with relevant consultation bodies.	Assumptions made in surface access modelling have been considered and the CEA and <b>Transport Assessment (TA)</b> [TR020001/APP/7.02] have been checked for alignment. Additional other development applications have been added to the CEA based on their inclusion in the TA.
4.16.5	Planning Inspectorate	In-Combination and Cumulative Effects	The Inspectorate agrees that climate change resilience is only considered in respect of the Proposed Development, and that cumulative effects with other developments will not be included in the ES.	Acknowledged. No further response required as the comment is for information purposes only.
4.16.6	Planning Inspectorate	In-Combination and Cumulative Effects	The Inspectorate expects that the Zol will extend to encompass other land within agricultural holdings affected by the proposed development, that may also be affected by other development, such that the cumulative impact on agricultural holdings of the proposed development and other developments can be assessed.	The ZOI for the agricultural Cumulative Effects Assessment has been extended to include other land in agricultural development affected by the Proposed Development.
4.16.7	Planning Inspectorate	In-Combination and Cumulative Effects	The proposed 1.5km Zol is not justified in the Scoping Report but appears to be based on potential effects on species. It is not clear why the Zol set within the Biodiversity chapter (Chapter 17) has not been applied, which extends up to 10km for statutory designated sites (up to 30km for those designated for bat and bird species). At 1.5km the cumulative Zol is likely to omit consideration of cumulative effects on designated sites in the wider area. The Inspectorate advises that the Zol should reflect that proposed in the Biodiversity assessment.	Cumulative impacts on biodiversity are being considered (where applicable - i.e. where potential impact pathways (routes by which a change in activity can lead to an effect) are present to receptors) in relation to all ZOIs listed in the biodiversity chapter (including those for statutory and non-statutory designated nature conservation sites). Reporting of this has been updated and made clearer within <b>Section 8.3.5 of Chapter 8 Biodiversity</b> of the ES [TR020001/APP/5.01].
4.16.8	Planning Inspectorate	In-Combination and Cumulative Effects	The Inspectorate considers that minor applications or allocations within 1km of the red line boundary should be included in the CEA. The Applicant should make effort to agree with relevant consultation bodies the applications and allocations to be taken into account in the CEA and should also consider whether it is relevant to include applications submitted more than five years ago where these may lead to significant cumulative effects.	The search area for 'minor' applications has been extended from the originally proposed 200m to 500m from the Main Application Site and Hitchin Off-site Highways Interventions. It was determined that developments of this scale beyond 500m would be unlikely to result in significant cumulative effects with the Proposed Development. Engagement with the LPAs was maintained throughout the EIA process and the cumulative assessment criteria agreed for the submission of the ES. Any other developments identified by LPAs not previously listed (outside of the criteria identified) have been considered further and added to the assessment if appropriate.
4.16.9	Planning Inspectorate	In-Combination and Cumulative Effects	The screening of the long list of other developments for inclusion and exclusion should use criteria which is explicitly defined in the ES. Those criteria not already covered by the bullet points in section 21.4.21 should in addition be clearly stated.	Exclusion criteria used during Stage 2 of the Cumulative Effects Assessment have been described and justified in <b>Section 21.3 In Chapter 21</b> In-combination and cumulative effects of this ES [TR020001/APP/5.01].

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4.16.10	Planning Inspectorate	In-Combination and Cumulative Effects	As set out in the AN17, where new 'other development' comes forward following the stated assessment cut-off date, the Examining Authority may request additional information during the Examination in relation to effects arising from such development. The Applicant should be aware of the potential need to conduct further assessments and provide more information.	The search for other developments to be included in the Cumulative Effects Assessment will be frozen three months ahead of the submission of the ES to ensure a robust and appropriate assessment. This means that any other developments which may arise in the planning system after this date may not be captured as part of the assessment. Should the Examining Authority identify further other developments, additional assessment may be required.
4.16.11	Planning Inspectorate	In-Combination and Cumulative Effects	The assessment should take into account the cumulative effects of the proposed development together with the expansion of other airports, in the South East. The ES should consider cumulative impacts where significant effects could occur, including impacts to the Chilterns AONB.	<p>For the CEA, development at other airports in the South East has been considered in Step 1 i.e. establishing whether the construction and/or operation of the proposed development at other airports in the South East is likely to occur within the ZOI of the Proposed Development. The assessment included Stansted, Heathrow, Gatwick and London City airports. The maximum extent of the core ZOI for the Proposed Development is defined by the noise and vibration air noise study area, the affected road network and the 10km buffer area from the Main Application Site defined by the Major Accidents and Disasters assessment (see <b>Figure 21.1</b> of the ES [TR020001/APP/5.03]. The core ZOI identified by the Heathrow proposals and an assumed ZOI was applied to each of the other airports (Gatwick, Stansted and London City) identified there would be no overlap with the core ZOIs for the Proposed Development (<b>Figures 20.1 and 20.1</b> of this ES [TR020001/APP/5.03]). Therefore, cumulative effects with other airport expansion in the South East is not considered further. The exceptions are:</p> <ul style="list-style-type: none"> <li>- the assessment of Greenhouse Gas emissions which has considered the Proposed Development in the context of the wider UK aviation sector projections, and therefore, already reports a cumulative assessment in <b>Chapter 12</b> Greenhouse Gases of this ES [TR020001/APP/5.01]; and,</li> <li>- the waste and resources assessment wider ZOI intercepts with the Heathrow wider ZOI for waste.</li> </ul> <p>As explained in <b>Chapter 4</b> The Proposed Development of this ES [TR020001/APP/5.01], a review of airspace in the south east of England is ongoing and yet to be completed. This makes an assessment of any potential combined aircraft air noise effects from airport expansion projects across the region unfeasible due to uncertainties over the future routing of aircraft. A qualitative assessment has been undertaken based on the best available information about future airspace change.</p>
Appendix 2	Natural England	In-Combination and Cumulative Effects	<p>A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.</p> <p>The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):</p> <ol style="list-style-type: none"> <li>a. existing completed projects;</li> <li>b. approved but uncompleted projects;</li> <li>c. ongoing activities;</li> <li>d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and</li> <li>e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.</li> </ol>	This approach is broadly in line with the Planning Inspectorate Advice Note 17 which is the basis for the Cumulative Effects Assessment (CEA). This approach has therefore been implemented in the ES.



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Appendix 2	Chilterns Conservation Board	In-Combination and Cumulative Effects	Figures 21.2 planning applications and 21.2 local plan allocations do not assess a wide enough geographic area. Other major proposals are likely to have a cumulative environmental impact on traffic, carbon emissions, waste, water consumption, habitats and tranquillity together with the growth of Luton Airport. The EIA Scoping Report has missed HS2, the growth of Aylesbury into a Garden Town, the major expansion of housing at nearby Hemel Hempstead and in future west of Luton, Heathrow third runway because of flightpaths implications at Luton, and the Ox-Cams expressway and growth arc. It should also recognise the current planning application (ref 19/00428/EIA) submitted by Luton Airport to Luton Borough Council to vary the noise conditions on the airport to increase both day and night time noise.	The extent of the applications and allocations search is described in the methodology of <b>Chapter 21</b> of the ES [TR020001/APP/5.01] and is based on the final agreed ZOIs identified by environmental topics. It is important to consider that each EIA should be proportionate to the development proposed.
Appendix 2	Chilterns Conservation Board	In-Combination and Cumulative Effects	The proposed methodology for Cumulative Effects Assessment (CEA) fails to consider more than a zone local to the Airport. The thresholds proposed at Table 21.3 covers too small an area. The list of developments scoped-in for cumulative effects testing have been shared with local planning authorities but not available for other stakeholders to comment. Chilterns Conservation Board considers that the CEA should include other projects which are putting pressure on the Chilterns AONB and which should be scoped into the CEA: <ul style="list-style-type: none"> <li>• HS2</li> <li>• The Ox-Cam expressway and growth corridor</li> <li>• Heathrow expansion (also an NSIP). There is a clear interrelationship between plans for airport expansion at Heathrow and Luton, both of which might happen. The change in flight paths at Heathrow could have a direct impact on Luton airport's flightpaths and the height planes fly at over the Chilterns AONB. Heathrow third runway should clearly be scoped in to the cumulative effects assessment</li> <li>• Housing and employment growth of Aylesbury into a Garden Town, the major expansion of housing at nearby Hemel Hempstead and in future likely development to the west of Luton.</li> </ul>	Pre-application consultation advice from HE recommended visualisations from Someries Castle and Luton Hoo RPG and these are presented in <b>Appendix 14.7</b> of the ES [TR020001/APP/5.02].
Appendix 2	Chilterns Conservation Board	In-Combination and Cumulative Effects  Biodiversity Lighting Air quality Landscape Water	Zones of influence for the development (summarised in Figure 21.1 in Vol 2) have been drawn far too closely. Much wider zones are needed for all 6 categories. Assessments must include the area under the flightpaths, protected habitats likely to be affected by air pollution, impacts on the River Ver – an internationally important chalk stream, and the natural beauty, dark skies and public enjoyment of the nationally designated landscape of the Chilterns AONB. The impacts of an expanded Luton Airport go much wider than Luton town and its immediate environs, and so should the EIA.	Appropriate Zones of Influence (ZOIs) for each discipline are defined and included as part of the ES.
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects	We are concerned that the use of a 'projects/developments within the last 5 years' (para. 21.4.15) may exclude some very large and complex developments from consideration as part of the Cumulative Effects Assessment (CEA). Justification for this approach and whether it results in the exclusion of such projects should be provided.	A justification for the use of 5 years has been provided in <b>Section 21.3</b> , of <b>Chapter 21</b> In-combination and cumulative effects [TR020001/APP/5.01]. This temporal limit was used as most consented developments typically require commencement within three to five years of receiving permission. Large and complex developments identified in the Transport Assessment have been considered and are included in the Cumulative Effects Assessment where necessary.

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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects	The SR states (para. 21.4.23) 'Professional judgement will be used in the development and application of the inclusion and exclusion criteria, and relevant planning authorities and statutory consultees will be consulted.' We welcome further engagement on the methodology for identifying cumulative projects to be included in the CEA.	Engagement with relevant planning authorities, statutory consultees and stakeholders was maintained throughout the EIA process in relation to the inclusion of 'other developments' until submission of the DCO.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects	The SR indicates that it will consider local development plans, policies and programmes "to determine present and future potential interactions with the Proposed Development." We consider this to be particularly important to ensure that the CEA follows the advice set out in Advice Note 17: Cumulative Effects Assessment (AN17). It must include a comprehensive assessment in relation to local plans.	The Cumulative Effects Assessment is comprehensive of local development plans and allocations. These are included in the long list and are screened out of the detailed assessment if the criteria is not met.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects	The SR states (para. 21.4.31) that the same significance criteria will be used in relation to each topic when undertaking the CEA. This suggests an 'additive' approach to cumulative effects is proposed. However, the ES should ensure that any synergistic cumulative effects are also identified, where relevant.	The cumulative assessment methodology in the ES has ensured that any/all synergistic cumulative effects have been identified and assessed where relevant.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects	There is no mention of the cumulative effects of expansion at other airports (for example London Heathrow and Stanstead) and whether cumulative effects from increased air traffic generally will result. If this is not to be considered the Applicant should justify this.	For the purposes of the Cumulative Effects Assessment, proposed development at other airports in the South East has been considered in Step 1 i.e. establishing whether the construction and/or operation of the proposed development at other airports in the South East is likely to occur within the ZOI of the Proposed Development. The assessment includes Stansted, Heathrow, Gatwick and London City airports. A full explanation of the inclusion / exclusion of other airports is provided in <b>Chapter 21</b> In-Combination and Cumulative Effects of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects GIS	It is to be noted that in Fig 21.3, site allocation KW1 is located in the wrong place and named wrongly: it should be KW1 Kings Walden not East of Luton.	This reference is no longer included in the Figures associated with <b>Chapter 21</b> of the ES [TR020001/APP/5.01].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	In-Combination and Cumulative Effects Traffic and transportation	Table 21-2 of the SR notes that the transport and traffic assessment, based on surface access modelling, is inherently cumulative as it includes employment and housing development projections. There needs to be clarity that the list of cumulative developments (including Local Plan allocations) that are taken into account within the CEA are aligned with the traffic modelling to ensure that the latter does not underestimate impacts.	The cumulative schemes included in the modelling have been agreed with the principal consultees (National Highways, LBC, CBC, and HCC).

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<b>Other</b>				
<b>Airspace / Aviation Regulation</b>				
2.2.22	Planning Inspectorate	Airspace / Aviation Regulation	Paragraph 5.3.12 and Section 5.5 explain that air space is being redesigned across the South East of England as a separate process outside of the Proposed Development and separate to the DCO process. This programme is referred to as the 'Future Airspace Strategy Implementation (FASI) South' and is being led by the National Air Traffic Services (NATS) under the supervision of the Department for Transport and the Civil Aviation Authority (CAA). Any air space change needs to follow the process outlined in the CAA's Civil Aviation Publication 1616 (CAP 1616). It is a collaborative process involving all London airports and in respect of Luton, London Luton Airport Operations Ltd (LLAOL), as the aerodrome licence holder, will be developing the proposal to fit with FASI South implementation, which is targeted at 2026. The Scoping Report confirms that LLAOL will be developing their proposals to fit with the FASI South implementation, in parallel to the DCO process and working in collaboration with the Applicant, subject to a programme outside of the control of the Applicant.	Acknowledged. No further response required as the comment is for information purposes only.
2.2.23	Planning Inspectorate	Airspace / Aviation Regulation	Paragraph 5.5.4 states the 'timescale for this exercise means that confirmed flight paths will not be available for consideration in the assessment for this DCO application as they will not be available within the project programme. Therefore, the assessment in the ES will be based on existing flight path designs.' The Scoping Report also states that 'should emerging flight path designs become available within a timeframe suitable to be included in the DCO application, consideration will be given to their inclusion in the assessment as a sensitivity test to illustrate potential environmental improvements that may be achievable as a result of the broader airspace redesign being undertaken by NATS.'	Acknowledged. No further response required as the comment is for information purposes only.
2.2.24	Planning Inspectorate	Airspace / Aviation Regulation	The Inspectorate notes the intention to produce the ES based on current flight paths and not those associated with the air space change on the basis that these may not be available and/or may only be developing not final flight paths, but that should they become available, consideration will be given to their inclusion through sensitivity testing. The Inspectorate understands the relationship between the Proposed Development and the future air space change process, which may not run in parallel. However, the Inspectorate considers that the ES methodology should be compatible with the methodological approaches outlined in the CAA's CAP 1616 and CAP 1616a documents to ensure consistency and continuity between the two assessment processes. Where the ES methodology is not consistent with the CAA's CAP approach, this should be identified and explained.	Please refer to <b>Chapter 4 The Proposed Development</b> , Section 4.13 Airspace Change and <b>Chapter 5 Approach to the Assessment</b> , Section 5.11 Air Space Change of the ES [TR020001/APP/5.01] for an explanation of the consideration of CAP 1616 and CAP 1616a within the EIA.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>1. The CAA is the UK's specialist aviation regulator. We work so that:</p> <ul style="list-style-type: none"> <li>the aviation industry meets the highest safety standards. We regulate the safety of airport design against UK, European and international safety criteria.</li> <li>consumers have choice, value for money, are protected and treated fairly when they fly.</li> <li>airspace is well managed. We make decisions on proposals to change airspace design, which we do against the background of Directions and environmental guidance from the Secretary of State.</li> <li>the aviation industry manages security risks effectively.</li> </ul> <p>We also provide the government, and third parties on a commercial basis, with environmental advice as requested, including information about the noise effects of aviation operations. In general, it is for government to determine environmental policy and for the CAA, where required, to implement such policy as it relates to our functions.</p>	This is a statement of the CAA's general responsibilities and does not require a specific response.
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>2. We welcome the opportunity to respond to London Luton Airport Limited's (LLAL) Environmental Impact Assessment (EIA) scoping report in our capacity as a prescribed statutory consultee in the planning process.</p> <p>3. By way of general introductory comment, in paragraphs 5 to 12 we provide a high-level overview of our regulatory roles and how they relate to the Development Consent Order (DCO) process. In paragraphs 13 to 17 we explain how we approached our consideration of LLAL's EIA scoping report. In paragraphs 18 to 22 we provide such comments as we have at this stage on those chapters of LLAL's EIA scoping report that relate to the CAA's regulatory roles.</p> <p>4. For further information about the CAA's responsibilities or on any of our comments in this paper, please contact us at <a href="mailto:DCO.Coordination@caa.co.uk">DCO.Coordination@caa.co.uk</a>.</p>	This is a statement of the CAA's general responsibilities and does not require a specific response.
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>5. In addition to obtaining a DCO, LLAL will also be required to obtain a number of regulatory approvals from the CAA in order to give effect to the Proposed Development.</p> <p>The CAA's regulatory approval processes will continue throughout the planning and construction phases. The environmental statement that will form part of LLAL's DCO application will contain topics which are relevant to the CAA's regulatory processes. The most significant regulatory areas are as follows.</p>	It is acknowledged that several aspects of the airfield design will require the CAA's regulatory approvals. Such approvals are not required at the planning stage and relate to bringing the new facilities into operation. These requirements have been discussed with the CAA and they have indicated that, in principle, there proposals are not inconsistent with regulatory requirements.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>6. The CAA has a number of safety oversight responsibilities in the UK. The CAA oversees the safety of aircraft and air navigation, the control of air traffic, air traffic services personnel, the licensing of aerodromes and air crew. In recent years, the European Commission, the European Aviation Safety Agency (EASA) and International Civil Aviation Organisation have played an increasingly significant role.</p> <p>7. The CAA is the national supervisory authority for the certification of air navigation services (ANS) providers covering the requirements of Regulation (EU) No. 1035/2011. Those requirements include technical and operational competence and capability, 2 specific requirements for the provision of air traffic services, meteorological services, aeronautical information services and communication, navigation or surveillance services.</p> <p>8. The CAA is also the designated competent authority for the licencing of aerodromes under Regulation (EU) No. 139/2014. The licencing process ensures continuous oversight of safety standards at civil aerodromes. Since this regulation came into force in 2014, London Luton Airport's aerodrome licence has been converted to an EASA compliant licence.</p> <p>9. Safety assurance of proposed changes can only be provided if the proposer submits to the approving authority a fully detailed concept of operations for how it intends to achieve an acceptable level of safety.</p> <p>10. It might not be possible to issue some approvals without trialling the operation first. In such circumstances, permission to operate a trial may sometimes be given so that the operator can demonstrate that the concept works as intended (potentially with further mitigating action required to ensure the concept meets all requirements).</p>	This is a statement of the CAA's general responsibilities and does not require a specific response.
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>11. The CAA is responsible for making decisions on proposals to change airspace design. As part of that decision-making role, we take into account a range of factors including safety, efficiency and guidance on environmental objectives from the Secretary of State. The evidence we use to consider those factors, and how it should be prepared, is set out in our regulatory process 'Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements' (CAP1616).</p> <p>12. Any airspace changes associated with the Proposed Development at London Luton Airport must follow the CAA's airspace change process as set out in our guidance in CAP1616. Our guidance specifies the evidence we need from the organisation sponsoring an airspace change, including the relevant environmental data and the methodologies for producing it.</p>	This is a statement of the CAA's general responsibilities and does not require a specific response.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	<p>13. The CAA's regulatory processes will to a significant extent run in parallel with the DCO process, but not conclude until after the DCO application has been submitted. Accordingly, the CAA may be asked by the Planning Inspectorate ("PINS") and the Secretary of State to provide an interim opinion regarding the viability of LLAL's scheme.</p> <p>14. It would therefore be prudent for the EIA scope and methodology to be consistent with the requirements of the CAA's regulatory processes in order to avoid duplication and aid clarity for stakeholders. Where this is not possible, we suggest that LLAL explains its choice of methodology with great care and sets out the difference between the methodology used for EIA purposes and that to be used for the purposes of any submissions seeking CAA approval.</p> <p>15. We have considered LLAL's EIA scoping report on that basis, and we are using this response to inform PINS of the information we consider should be provided in LLAL's environmental statement. We have in particular considered LLAL's proposed scope and methodology to assess and mitigate the significant environmental impacts of the Proposed Development. We have only commented on relevant chapters/EIA topics.</p> <p>16. Our response below contains a limited number of comments on those aspects of LLAL's EIA Scoping Report that relate to our regulatory roles.</p> <p>17. In respect of airspace change, CAP 1616 and CAP 1616a1 provide the relevant methodologies for use in environmental assessments to assist those preparing airspace change proposals.</p>	Comment acknowledged and specific comments have been addressed.
Appendix 2	Civil Aviation Authority	Airspace / Aviation Regulation	We note at paragraphs 5.5.1 to 5.5.6 that the environmental impact assessment will not take account of the planned airspace reorganisation known as FASI South. We invite the Applicant to clarify whether airspace change is required in order to deliver the Proposed Development.	As the proposed airspace changes as a consequence of FASI S are not yet known, the environmental assessment will be based on the current flightpath structure. The CAA has suggested some sensitivity testing of the distribution of aircraft movements along these flightpaths to ensure that noise assessment takes into account the potential for changes brought about by FASI S. These are reported within ES <b>Chapters 6-20</b> and ES <b>Chapter 5 [TR020001/APP/5.01]</b> .
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Airspace / Aviation Regulation	On a specific point regarding phasing and construction, Table 3-2, showing Forecast Passenger Demand and Capacity Phasing indicates that the existing terminal capacity increases to 21 mppa for one year in 2022. It is unclear as to why this might be the case given its capacity remains at 18mppa both prior to and after this date. We assume that this reflects a conscious choice to limit its capacity as the new terminal opens, but the inference is that the original terminal could take an additional 3mppa each year after 2022 if LLAL so chose.	The phasing of capacity to meet demand is addressed in the <b>Need Case [TR020001/APP/7.04]</b> .
Appendix 2	Vincent and Gorbings, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Airspace / Aviation Regulation	We note at Section 5.5 that the airspace change process is outside of the scope of the LLAL proposed DCO and that environmental assessment will be based on existing flightpaths, with sensitivity testing if new flightpaths become available within a timeframe suitable to be included in the DCO process. Although we accept that they are distinct, there is a clear interface between the two processes with the ACP process potentially substantively changing the environmental impacts of the airport as assessed within the ES and judgements underpinning the DCO decision-making process and mitigation requirements. We consider that this matter should be recognised and kept under review.	In order to test the potential impact of future airspace changes, some sensitivity analysis of the noise impacts has been undertaken to inform the setting of the noise envelope.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	National Air Traffic Services (NATS)	Airspace / Aviation Regulation EIA Team - General	The proposed development has the potential to affect NATS En Route's infrastructure located at Luton airport and its provision of en-route air traffic services. The details of the proposed development are currently insufficient for NATS to make a formal representation. However, NATS will be happy to collaborate with the relevant stakeholders in order to review further information as it becomes available. NATS will also be willing to work with all interested parties in order to understand the impact and identify any solutions that may be required.	Further consultation with NATS will take place to clarify which infrastructure is referred to. Earlier discussions with NATS had not flagged such concerns.
Appendix 2	Aylesbury Vale District Council and Buckinghamshire County Council	Airspace / Aviation Regulation In-Combination and Cumulative Effects	Given the short but relative distance of Buckinghamshire from Luton Airport, certain elements of the scoping report will be less relevant, but we are pleased to be able to offer a more detailed response into chapters, 6, 7, 10, 14, 15 & 19 of the report. Notwithstanding this we do feel that we should particularly highlight the importance of considering the cumulative effect of the expansion of airport capacity in the South East. When taken together, the potential additional air traffic from Luton and Heathrow Airports over parts of northern Buckinghamshire are likely to be significant and something that both residents and local members are particularly concerned about. We are particularly keen to ensure that there is coordination on the use of airspace over northern Buckinghamshire and the Chilterns, between LLAOL, LLAL and HAL in order to ensure that airspace benefits secured over Buckinghamshire attributable to Heathrow expansion are not undermined by lower altitude aircraft from Luton airport. You will note that we feel that the scope of the study area should be extended in some areas and we very much hope that this is given detailed consideration.	The coordination of the interaction of flightpaths across the South East of England is part of the FASI-S process.
<b>Constructability</b>				
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Constructability EIA Team - General	The SR provides little information on construction processes and the construction phasing information (paras. 3.6.2 – 3.6.7) is high level.	The construction method and programme is outlined <b>Appendix 4.1</b> Construction Method Statement and Programme Report of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Constructability EIA Team - General	We understand the rationale for a Draft Code of Construction Practice at application stage but this document will form a key mitigation tool during construction. We therefore question to what extent it can be relied upon if it were not to be a certified document at the time the DCO was made. We consider that the maximum amount of certainty regarding environmental mitigation during construction should be achieved as early in the DCO process as possible.	A CoCP has been produced as final to support the application for development consent. The CoCP has been provided as <b>Appendix 4.2</b> of the ES [TR020001/APP/5.02].
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Constructability EIA Team - General Land referencing	The ES should include a clear description of the construction process in each Phase including inter alia:- - land use requirements including where there is temporary and permanent change; - further detail on the construction programme for each phase; - construction hours, including confirmation of whether night time working is required; - site preparation processes; - construction processes and methods; - vehicle routes for construction materials; number of movements and parking of construction vehicles (both HGVs and staff) - further detail on the nature and quantity of materials used, as well as waste arisings and their disposal; and - emissions during construction - air pollution, noise, vibration and light.	A description of the construction process is provided in <b>Chapter 4</b> The Proposed Development of the ES [TR02000/APP/5.01] and in <b>Appendix 4.1</b> Construction Method Statement and Programme Report of the ES [TR020001/APP/5.02].

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Constructability EIA Team - General Socio-economics Health and community	The SR is also lacking in any detail as to the impact of construction workers on the area and in particular any potential impact on the availability of local housing.	The assessment of health and community effects <b>Chapter 13</b> of the ES [TR02000/APP/5.01] assesses the potential impacts and effects of construction workers on the area including the potential effects on health resulting from changes to 'employment and income', 'housing market' and 'access to services' specifically primary care and A&E.
<b>Design, Earthworks, Lighting and Planning</b>				
Appendix 2	Public Health England	Design Major accidents and Disasters Health and Communities	We would like to draw your attention to the International Health Regulations 2005 which states that the airport operator should review their provisions to ensure that adequate space and facilities are available to safely disembark, cohort and assess passengers in the event of a public health incident. This could be a situation such as passengers thought to be suffering from an infectious disease or a Chemical, Biological, Radiological and Nuclear defense (CBRN) incident. We recommend the airport operator considers the requirements in the core capacity document and spreadsheet published by the World Health Organization (WHO) which can be found here: [REDACTED] Furthermore the airport operator should ensure that there is a regularly tested and reviewed Public Health Emergency Contingency Plan in place and that in the event of an incident all staff are aware of the need for prompt communication with the PHE East of England.	An isolation stand has been included within the Proposed Development, which can be used for isolating an aircraft in the event of a public health incident. Further detail on the allowance for an isolation stand (Work No. 2b(04) in assessment Phase 2a) is provided in <b>Chapter 4</b> The Proposed Development of the ES [TR020001/APP/5.01].
Appendix 2	Welwyn Hatfield Borough Council	Earthworks Soils and Geology Utilities - water	Other subject areas normally of concern to Environmental Health such as contaminated land, are not being raised, due to the very unlikely impact that these issues will have on the Welwyn Hatfield borough, and is best left to the local authorities closer to comment on these aspects of the proposed expansion. However, if there is the potential for an impact, such as on private water supplies in this area, then we would like to be notified of this.	The risk assessments completed for the environmental assessment and appended to the ES Chapter have not identified any impacts to private water supplies from the identified contamination in the landfill or other areas of potential contamination i.e. off-site highway interventions.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Lighting EIA Team - General	3.4 There are two 'topic areas' that we consider would usefully have their own ES chapters. 3.5 The first is lighting. Clearly the Proposed Development will have a significant impact in terms of light pollution and this will impact on surrounding areas (both built areas - residential etc and on the natural landscape/environment). 3.6 Paragraphs 5.4.19 – 5.4.25 of the Scoping Report discusses the inclusion of a Lighting Assessment 'as part of the ES'. We assume that the proposal is for the lighting assessment to be a Technical Appendix and cross referred to by topic chapters. However, given the importance of this subject we consider that a specific ES chapter may be more appropriate to ensure that all effects arising from the lighting proposals associated with the Proposed Development are assessed on a comprehensive basis.	The Lighting Assessment is provided as a Technical Appendix of the ES (see <b>Appendix 5.2</b> Light Obtrusion Assessment of the ES [TR020001/APP/5.02]). The Light Obtrusion Assessment meets all lighting assessment requirements and is appropriate.



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Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Planning Legal EIA Team - General	The Development Plans and other adopted strategies of the four host authorities will be important and relevant matters in the determination of the DCO. As the SR highlights, there are emerging plans in both NHDC and CBC and the ES will need to reflect the most up-to-date position in respect of these plans at the time the DCO is submitted; the SoS will in turn need to consider their status at the time of the decision on the DCO. The same applies in respect of the Government's aviation policy. It is noted in the SR (for example at 10.2.10) that this is yet to be finalised.	Acknowledged. The ES has been prepared in compliance with the latest relevant legislation and policy.
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Planning Legal EIA Team - General	It is accepted that topic specific chapters of the ES will need to undertake topic-specific policy analysis. It is assumed however, that a separate Policy Compliance Statement will be prepared to support the application in due course that will allow for a full analysis of the compliance or conflict of the Proposed Development with national and local planning policy. This should include all authorities where significant effects may arise.	Compliance or conflict with national and local planning policy is outlined in the <b>Planning Statement</b> submitted as part of the application for development consent [TR020001/APP/7.01].
<b>Utilities</b>				
Appendix 2	Vincent and Goring, Hertfordshire County Council, North Hertfordshire District Council, Central Bedfordshire Council and Luton Borough Council	Utilities EIA Team - General	The second is Utilities and Services. The Proposed Development will have an impact on both basic utilities (water, electric and gas supplies) and on services and this should be considered including service enhancement or diversions.	'Utilities and Services' is not an environmental aspect, as required by the EIA Regulations, and does not require a 'separate assessment'. Forecast energy demand (including gas and electricity), water consumption and discharge have been considered and reported in the Energy Statement ( <b>Appendix 4.2 [TR020001/APP/5.02]</b> ) and Drainage Design Statement ( <b>Appendix 20.4 [TR020001/APP/5.02]</b> ). This information has been used to inform the relevant assessment of environmental effects [TR020001/APP/5.01] and the design of the Proposed Development which includes appropriate utility diversions and infrastructure to ensure adequate future capacity.
Appendix 2	Cadent Gas Limited	Utilities Gas	I refer to your email dated 1st April 2019 regarding the above proposed DCO. Cadent has reviewed the project scoping report provided and wishes to make the following comments: In respect of existing Cadent infrastructure, Cadent will require appropriate protection for retained apparatus including compliance with relevant standards for works proposed within close proximity of its apparatus, Cadent Infrastructure within or in close proximity to the development Cadent has identified the following apparatus within the vicinity of the proposed works, the impact to which should be considered further: ▪ High pressure (above 2 bar) Gas Pipelines and associated equipment ▪ Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are also gas services and associated apparatus in the vicinity, these are not shown on plans but their presence should be anticipated). Note: No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any error or omission.	Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Cadent Gas Limited	Utilities Gas	Where diversions of apparatus are required to facilitate the scheme, Cadent will require adequate notice and discussions should be started at the earliest opportunity. Please be aware that diversions for high pressure apparatus can take in excess of two years to plan and procure materials. Where diversions of apparatus are required to facilitate the scheme, Cadent will require the party requesting the diversion works to obtain any necessary planning permissions and other consents to enable the diversion works to be carried out. Details of these consents should be agreed in writing with Cadent before any applications are made. Cadent would ordinarily require a minimum of C4/Conceptual Design study to have been carried out to establish an appropriate diversion route ahead of any application being made. Where diversions sit outside the highway boundary the party requesting the diversion will be responsible for obtaining at their cost and granting to Cadent the necessary land rights, on Cadent's standard terms, to allow the construction, maintenance and access of the diverted apparatus. As such adequate land rights must be granted to Cadent (e.g. following the exercise of compulsory powers to acquire such rights included within the DCO) to enable works to proceed, to Cadent's satisfaction. Cadent's approval to the land rights powers included in the DCO prior to submission is strongly recommended to avoid later substantive objection to the DCO. Land rights will be required to be obtained prior to construction and commissioning of any diverted apparatus, in order to avoid any delays to the project's timescales. A diversion agreement may be required addressing responsibility for works, timescales, expenses and indemnity.	Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.
Appendix 2	Cadent Gas Limited	Utilities Gas	Where the Promoter intends to acquire land, extinguish rights, or interfere with any of Cadent's apparatus, Cadent will require appropriate protection for retained apparatus and further discussion on the impact to its apparatus and rights including adequate Protective Provisions. Operations within Cadent's existing easement strips are not permitted without approval and will necessitate a Deed of Consent or Crossing Agreement being put in place. Any proposals for work in the vicinity for Cadent's existing apparatus will require approval by Plant Protection under the Protective Provisions/Asset Protection Agreement and early discussions are advised.	Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.
Appendix 2	Cadent Gas Limited	Utilities Gas	Cadent has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings/structures, change to existing ground levels or storage of materials etc within the easement strip. <ul style="list-style-type: none"> <li>• Please be aware that written permission is required before any works commence within the Cadent easement strip and a Crossing Agreement may be required if any apparatus needs to cross the Cadent easement strip</li> <li>• The below guidance is not exhaustive and all works in the vicinity of Cadent's asset shall be subject to review and approval from Cadent's plant protection team in advance of commencement of works on site.</li> </ul>	Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	Cadent Gas Limited	Utilities Gas	<p>You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and Cadent's specification for Safe Working in the Vicinity of Cadent High Pressure gas pipelines and associated installations - requirements for third parties GD/SP/SSW22. Digsafe leaflet Excavating Safely - Avoiding injury when working near gas pipes. There will be additional requirements dictated by Cadent's plant protection team.</p> <ul style="list-style-type: none"> <li>• Cadent will also need to ensure that our pipelines remain accessible throughout and after completion of the works .</li> <li>• The actual depth and position must be confirmed on site by trial hole investigation under the supervision of a Cadent representative. Ground cover above our pipelines should not be reduced or increased.</li> <li>• If any excavations are planned within 3 metres of Cadent High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a Cadent representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.</li> <li>• Below are some examples of work types that have specific restrictions when being undertaken in the vicinity of gas assets therefore consultation with Cadent's Plant Protection team is essential: Demolition • Blasting • Piling and boring • Deep mining</li> <li>• Surface mineral extraction • Landfilling Trenchless Techniques (e.g. HDD, pipe splitting, tunnelling etc.) • Wind turbine installation • Solar farm installation • Tree planting schemes</li> </ul>	<p>Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.</p>
Appendix 2	Cadent Gas Limited	Utilities Gas	<p>New services may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees. • Where a new service is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres. • A new service should not be laid parallel within an easement strip • A Cadent representative shall approve and supervise any new service crossing of a pipeline. • An exposed pipeline should be suitable supported and removed prior to backfilling • An exposed pipeline should be protected by matting and suitable timber cladding • For pipe construction involving deep excavation (&lt;1.5m) in the vicinity of grey iron mains, the model consultative procedure will apply therefore an integrity assessment must be conducted to confirm if diversion is required</p>	<p>Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.</p>
Appendix 2	Cadent Gas Limited	Utilities Gas Constructability	<p>Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at agreed locations. • The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required. • The type of raft shall be agreed with Cadent prior to installation. • No protective measures including the installation of concrete slab protection shall be installed over or near to the Cadent pipeline without the prior permission of Cadent. • Cadent will need to agree the material, the dimensions and method of installation of the proposed protective measure. • The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to Cadent. • A Cadent representative shall monitor any works within close proximity to the pipeline.</p>	<p>Engagement has been undertaken with Cadent Gas Limited throughout the EIA process. Necessary minor works to the existing gas network due to interactions with the Proposed Development have been identified and will be further specified during detailed design of the Proposed Development. Proposed new buildings will not include provision for gas.</p>

ID	Comment Originator	Discipline	Scoping Opinion Comment	Applicant Response
Appendix 2	ESP Utilities Group	Utilities Gas and Electric	I can confirm that ESP Utilities Group Ltd has no gas or electricity apparatus in the vicinity of this site address and will not be affected by your proposed works. ESP Utilities Group Ltd are continually laying new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry. Please be advised that any enquiries for ESP Connections Ltd, formerly known as British Gas Connections Ltd, should be sent directly to us at the address shown above or alternatively you can email us at: PlantResponses@espug.com	Engagement has been undertaken with Cadent Gas Limited throughout the EIA process.
Appendix 2	Affinity Water	Utilities Water	We have reviewed the request for a Scoping Opinion. We appreciate that the Planning inspectorate has a statutory timetable to meet in issuing its Scoping Opinion, the time available has meant that we have not been able to give the issues raised in this request detailed consideration. We will be writing further to the Applicant in due course to discuss the Proposed Development in relation to the time, costs and resources needed to properly deal with the matter.	Additional consultation with Affinity Water has been completed following the submission of the PEIR. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4 of Chapter 20</b> of the ES [TR020001/APP/5.01].
Appendix 2	Affinity Water	Utilities Water	We have not had preliminary discussions with the Applicant to advise in general terms of the likely footprint of the Proposed Development and the possible effects it may have on our undertaking. We are concerned that overall water demand from the expanded airport will increase significantly despite any potential water saving measures which may be introduced across the airport. Diversions and other network related work will need to be made in relation to our existing and extensive network of water mains, service pipes, equipment, operational apparatus and accessories within the Proposed Development.	Additional consultation with Affinity Water has been completed following the submission of the PEIR which has included discussion on the development proposals and potential impacts on Affinity Water infrastructure and future forecasting. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4 of Chapter 20</b> of the ES [TR020001/APP/5.01].
Appendix 2	Affinity Water	Utilities Water	We have identified the following points of sensitivity and potential concern based on our preliminary review of the documents provided - We have distribution pipelines and service pipes that are in the Proposed Development that will be directly affected. - We manage and control leakage and pressure to customers across leakage zones that are well understood; the reconfiguration of our network is likely to impact on this management. - We anticipate there may be impacts on network resilience arising from the Proposed Development. We currently have multiple ways of providing water to household and non-household properties using different pipes and the number of options available to us could be reduced. This impact could extend 3-4km outside the Proposed Development. - We have concerns that the Proposed Development could exacerbate the risk of contamination of the water quality at our ground water abstractions.	Additional consultation with Affinity Water has been completed following the submission of the 2022 PEIR which has included discussion on the development proposals and potential impacts on Affinity Water infrastructure and future forecasting. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4 of Chapter 20</b> of the ES [TR020001/APP/5.01].  A detailed assessment of the impact of the drainage proposals on groundwater receptors will be undertaken in the Hydrological Risk Assessment: Drainage ( <b>Appendix 20.6</b> of the ES [TR020001/APP/5.02]). The Hydrological Risk Assessment methodology has been agreed with the Environment Agency.
Appendix 2	Affinity Water	Utilities Water	Please note this cannot be a comprehensive list because we have not yet seen the full details of the Applicant's Proposed Development and we anticipate that we may identify additional concerns.	Additional consultation with Affinity Water has been completed following the submission of the PEIR which has included discussion on the development proposals and potential impacts on Affinity Water infrastructure and future forecasting. A summary of stakeholder engagement completed as part of the EIA is provided in <b>Section 20.4 of Chapter 20</b> of the ES [TR020001/APP/5.01].